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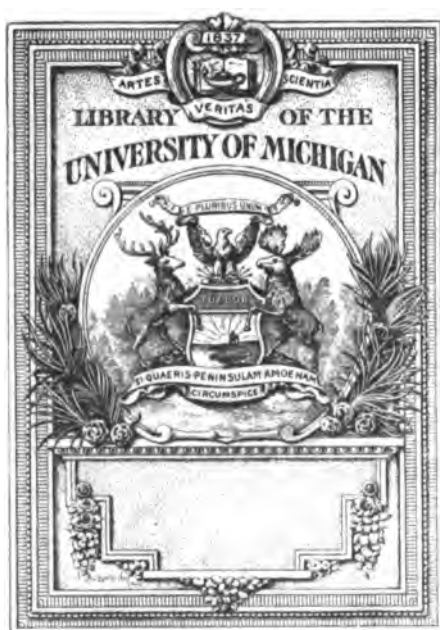
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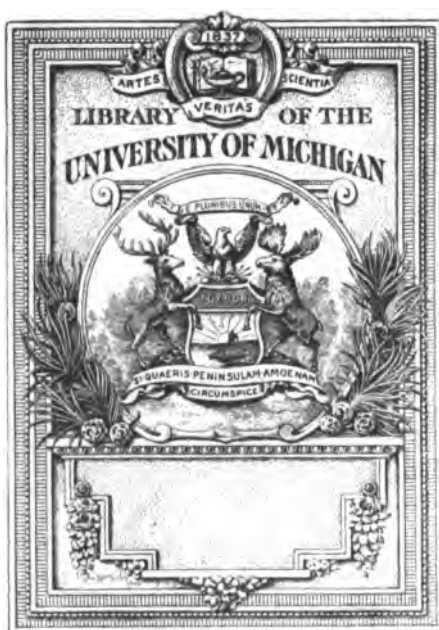
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**ANNUAL REPORT
OF THE BOARD OF REGENTS OF THE
SMITHSONIAN INSTITUTION**

**SHOWING THE OPERATIONS, EXPENDITURES
AND CONDITION OF THE INSTITUTION FOR
THE YEAR ENDING JUNE 30**

1913

**REPORT OF THE
U. S. NATIONAL MUSEUM**



**WASHINGTON
GOVERNMENT PRINTING OFFICE
1914**

UNITED STATES NATIONAL MUSEUM,
UNDER DIRECTION OF THE SMITHSONIAN INSTITUTION,
Washington, D. C., February 27, 1914.

SIR: I have the honor to submit herewith a report upon the present condition of the United States National Museum and upon the work accomplished in its various departments during the fiscal year ending June 30, 1913.

Very respectfully,

RICHARD RATHBUN,
Assistant Secretary, in charge of the National Museum.
DR. CHARLES D. WALCOTT,
Secretary, Smithsonian Institution.

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REPORT ON THE PROGRESS AND CONDITION OF THE UNITED STATES NATIONAL MUSEUM FOR THE YEAR ENDING JUNE 30, 1913.

By RICHARD RATHBUN,
*Assistant Secretary of the Smithsonian Institution,
in charge of the U. S. National Museum.*

INCEPTION AND HISTORY.

The Congress of the United States in the act of August 10, 1846, founding the Smithsonian Institution recognized that an opportunity was afforded, in carrying out the large-minded design of Smithson, to provide for the custody of the museum of the Nation. To this new establishment was therefore intrusted the care of the national collections, a course that time has fully justified.

In the beginning the cost of maintaining the museum side of the Institution's work was wholly paid from the Smithsonian income; then for a time the Government bore a share, and during the past 37 years Congress has voted the entire funds for the expenses of the Museum, thus furthering one of the primary means "for the increase and diffusion of knowledge among men" without encroaching upon the resources of the Institution.

The museum idea was inherent in the establishment of the Smithsonian Institution, which in its turn was based upon a 10 years' discussion in Congress and the advice of the most distinguished scientific men, educators, and intellectual leaders of the Nation of 70 years ago. It is interesting to note how broad and comprehensive were the views which actuated our lawmakers in determining the scope of the Museum, a fact especially remarkable when it is recalled that at that date no museum of considerable size existed in the United States, and the museums of England and of the continent of Europe were still to a large extent without a developed plan, although containing many rich collections.

The Congress which passed the act of foundation enumerated as within the scope of the Museum "all objects of art and of foreign and curious research and all objects of natural history, plants, and geological and mineralogical specimens belonging to the United

States," thus stamping the Museum at the very outset as one of the widest range and at the same time as the Museum of the United States. It was also fully appreciated that additions would be necessary to the collections then in existence, and provision was made for their increase by the exchange of duplicate specimens, by donations, and by other means.

If the wisdom of Congress in so fully providing for a museum in the Smithsonian law challenges attention, the interpretation put upon this law by the Board of Regents within less than six months from the passage of the act can not but command admiration. In the early part of September, 1846, the Regents took steps toward formulating a plan of operations. The report of the committee appointed for this purpose, submitted in December and January following, shows a thorough consideration of the subject in both the spirit and letter of the law. It would seem not out of place to cite here the first pronouncement of the board with reference to the character of the Museum:

"In obedience to the requirements of the charter,¹ which leaves little discretion in regard to the extent of accommodations to be provided, your committee recommend that there be included in the building a museum of liberal size, fitted up to receive the collections destined for the Institution. * * *

"As important as the cabinets of natural history by the charter required to be included in the Museum, your committee regard its ethnological portion, including all collections that may supply items in the physical history of our species, and illustrate the manners, customs, religions, and progressive advance of the various nations of the world; as, for example, collections of skulls, skeletons, portraits, dresses, implements, weapons, idols, antiquities, of the various races of man. * * * In this connexion, your committee recommend the passage of resolutions asking the cooperation of certain public functionaries, and of the public generally, in furtherance of the above objects.

"Your committee are further of opinion that in the Museum, if the funds of the Institution permit, might judiciously be included various series of models illustrating the progress of some of the most useful inventions; such, for example, as the steam engine from its earliest and rudest form to its present most improved state; but this they propose only so far as it may not encroach on ground already covered by the numerous models in the Patent Office.

"Specimens of staple materials, of their gradual manufacture, and of the finished product of manufactures and the arts may also, your

¹ Since the Institution was not chartered in a legal sense, but established by Congress, the use of the word "charter" in this connection was not correct.

committee think, be usefully introduced. This would supply opportunity to examine samples of the best manufactured articles our country affords, and to judge her gradual progress in arts and manufactures. * * *

"The gallery of art, your committee think, should include both paintings and sculpture, as well as engravings and architectural designs; and it is desirable to have in connexion with it one or more studios in which young artists might copy without interruption, being admitted under such regulations as the board may prescribe. Your committee also think that, as the collection of paintings and sculpture will probably accumulate slowly, the room destined for a gallery of art might properly and usefully meanwhile be occupied during the sessions of Congress as an exhibition room for the works of artists generally; and the extent and general usefulness of such an exhibition might probably be increased if an arrangement could be effected with the Academy of Design, the Arts Union, the Artists' Fund Society, and other associations of similar character, so as to concentrate at the metropolis for a certain portion of each winter the best results of talent in the fine arts."

The important points in the foregoing report are (1) that it was the opinion of the Regents that a museum was requisite under the law, Congress having left no discretion in the matter; (2) that ethnology and anthropology, though not specially named, were yet as important subjects as natural history; (3) that the history of the progress of useful inventions and the collection of the raw materials and products of the manufactures and arts should also be provided for; (4) for the gallery of art the committee had models in existence, and they proposed, pending the gathering of art collections, which would of necessity be slow, to provide for loan exhibitions by cooperating with art academies and societies.

In the resolutions which were adopted upon the presentation of the report, a museum was mentioned as "one of the principal modes of executing the act and trust."¹ The work was to go forward as the funds permitted, and, as is well known, the maintenance of the Museum and the library was long ago assumed by Congress, the Institution taking upon itself only so much of the necessary responsibility for the administration of these and subsequent additions to

¹ *Resolved*, That it is the intention of the act of Congress establishing the Institution, and in accordance with the design of Mr. Smithson, as expressed in his will, that one of the principal modes of executing the act and the trust is the accumulation of collections of specimens and objects of natural history and of elegant art, and the gradual formation of a library of valuable works pertaining to all departments of human knowledge, to the end that a copious storehouse of materials of science, literature, and art may be provided which shall excite and diffuse the love of learning among men, and shall assist the original investigations and efforts of those who may devote themselves to the pursuit of any branch of knowledge.

its activities as would weld them into a compact whole, which together form a unique and notable agency for the increase and diffusion of knowledge, for the direction of research, for cooperation with departments of the Government and with universities and scientific societies in America, and likewise afford a definite correspondent to all scientific institutions and men abroad who seek interchange of views or knowledge with men of science in the United States.

Since that early day the only material change in the scope of the Government Museum has been the addition of a department of American history, intended to illustrate by an appropriate assemblage of objects the lives of distinguished personages, important events, and the domestic life of the country from the colonial period to the present time.

The development of the Museum has been greatest in those subjects which the conditions of the past 60 years have made most fruitful—the natural history, geology, ethnology, and archeology of the United States, supplemented by many collections from other countries. The opportunities for acquisition in these directions have been mainly brought about through the activities of the scientific and economic surveys of the Government, many of which are the direct outgrowths of earlier explorations, stimulated or directed by the Smithsonian Institution. The Centennial Exhibition of 1876 afforded the first opportunity for establishing a department of the industrial arts on a creditable basis, and of this the fullest advantage was taken, though only a part of the collections then obtained could be accommodated in the space available. The department or gallery of the fine arts had made little progress, though not from lack of desire or appreciation, until within the past seven years, during which its interests have been markedly advanced.

With the completion of the new large granite structure on the Mall, the Museum has come virtually into possession of a group of three buildings, in which there is opportunity for a proper systematic arrangement of its vast and varied collections as well as a comprehensive public installation, and under these favorable conditions it may be considered to have entered upon an era of renewed prosperity and usefulness.

While it is the primary duty of a museum to preserve the objects confided to its care, as it is that of a library to preserve its books and manuscripts, yet the importance of public collections rests not upon the mere basis of custodianship, nor upon the number of specimens assembled and their money value, but upon the use to which they are put. Judged by this standard, the National Museum may claim to have reached a high state of efficiency. From an educational point

view it is of great value to those persons who are so fortunate as to be in Washington or who are able to visit the Nation's Capital.

In its well-designed cases, in which every detail of structure, appointment, and color is considered, a selection of representative objects is placed on view to the public, all being carefully labeled individually and in groups. The child as well as the adult has been provided for, and the kindergarten pupil and the high-school scholar can be seen here, supplementing their classroom games or studies. Under authority from Congress, the small colleges and higher grades of schools and academies throughout the land, especially in places where museums do not exist, are also being aided in their educational work by sets of duplicate specimens, selected and labeled to meet the needs of both teachers and pupils.

Nor has the elementary or even the higher education been by any means the sole gainer from the work of the Museum. To advance knowledge, to gradually extend the boundaries of learning, has been one of the great tasks to which the Museum, in consonance with the spirit of the Institution, has set itself from the first. Its staff, though chiefly engaged in the duties incident to the care, classification, and labeling of collections in order that they may be accessible to the public and to students, has yet in these operations made important discoveries in every department of the Museum's activities, which have in turn been communicated to other scholars through its numerous publications. But the collections have not been held for the study of the staff nor for the scientific advancement of those belonging to the establishment. Most freely have they been put at the disposal of investigators connected with other institutions, and, in fact, without the help of many such the record of scientific progress based upon the material in the Museum would have been greatly curtailed. When it is possible to so arrange, the investigator comes to Washington; otherwise such collections as he needs are sent to him, whether he resides in this country or abroad. In this manner practically every prominent specialist throughout the world interested in the subjects here well represented has had some use of the collections, and thereby the National Museum has come to be recognized as a conspicuous factor in the advancement of knowledge wherever civilization has a foothold.

Most important among the operations of the past year was the work upon the exhibition collections of natural history, in the arrangement of which sufficient progress was made to justify the opening of all the public halls in the new building, as described below. Much was also accomplished in the direction of rehabilitating certain branches of the department of the arts and industries, to which for a long time it has been impossible to give proper recognition, owing to the overcrowded condition of the Museum space preceding the occupation of the new building.

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THE NATURAL HISTORY EXHIBITIONS.

Of the 468,000 square feet, or approximately $10\frac{1}{2}$ acres, of floor space furnished by the new building, some 220,000 square feet, or fully 5 acres, are of the nature of exhibition space. Included in the latter figures are the main floor and galleries of the south pavilion and rotunda, and the large central hall and several of its communicating rooms in the ground story, which, though occasionally and in part used for temporary exhibitions, have not as yet been permanently assigned to any purpose. The entire area of the wings and ranges in the first and second stories, however, has been definitely allotted to the display of natural history subjects and before the close of last year the installations had been sufficiently advanced to permit of its being wholly opened to the public. The total extent of this area is 185,294 square feet, of which 7,264 feet have for several years been provisionally occupied by the paintings of the National Gallery of Art in default of proper lighting in either of the other buildings.

As described in a previous report, the new building consists of three great wings extending east, west and north from a practically square pavilion and connected near their outer ends by two L-shaped ranges, one on each side, so placed as to complete the enclosure of two large courts and give to the building a rectangular and symmetrical outline in plan. The two exhibition floors are above a basement or ground story and are surmounted by a third story and attic, the latter not discernible from the outside. The wings are approximately 116 feet wide in the inside, and the ranges 54 feet 2 inches. The east and west wings are 216 feet long, but the north wing measures only 205 feet, while each of the ranges has a total length of 316 feet 10 inches. The heights are 20 feet in the first story and 19 feet 6 inches in the second story.

On account of their great width, it was necessary to introduce a large skylight over the middle of each wing in order to obtain illumination for the central part of the main floor, which required the piercing of the second as well as the succeeding stories, with a corresponding diminution in their areas. In the ranges, however, the floors are unbroken and alike in both stories. The main entrance is on the south side of the building, where the pavilion and rotunda serve as a great lobby communicating directly with all the wings. From this point, as also from the north side, which contains a secondary public entrance, circulation is continuous and unobstructed around the entire building, with a median thoroughfare through the north wing.

The skylighted section of each wing is of the nature of a great hall, 54 feet 8 inches high to the under side of the ceiling light, about 167 feet 6 inches long and 50 feet wide. Its boundaries in the first story are marked by a row of large rectangular piers on each side and a crossrow at the outer end, enclosing steel column supports for the inner edges of the floor above and for the walls of the light well, whose only piercings are certain balcony openings in the second story. The interspaces between the piers in the lateral rows, except the extreme one at each end, have been filled in with screen walls to further mark the line of demarcation and supply additional wall space for the purposes of installation. The side aisles furnish elongate halls, about 33 feet wide, reaching to the space at the outer end of the wing, which may be regarded as a fourth hall, measuring about 116 feet by 48 feet, except in the north wing, where its size is less and where a screen wall cuts it across. Only where the screen walls occur, however, is there any effect of actual division between the sections of the wing, whose great dimensions of length, width and height are in evidence from practically every point of view. In the second story of the wings the floor space is the equivalent of the aisles and outer hall of the main story, with approximately the same dimensions for each.

From the south pavilion there are three large openings into each of the wings on the first floor, one leading to the central hall, the others to the aisles. On the second floor there are only two such entrances, one on each side, though an intermediate balcony opening furnishes a general view overlooking the main hall. From the north entrance of the building immediate access is had to only the north wing, from which the others can be reached only by traversing that wing or the ranges at the sides.

The provisions for the lighting of the exhibition halls are ample, as, in addition to the skylights, the outer walls are pierced with exceptionally large windows, whose width is 11 feet 6 inches as against a width of 7 feet for the intervening piers, and whose height is only 4 feet to 5 feet 6 inches less than that of the stories. It is also of interest to note that the length dimension of the building is based on a constant unit of $18\frac{1}{2}$ feet, which is the distance between the centers of successive piers, and is only disregarded in meeting architectural requirements at the corners of the building and at the juncture of walls. This arrangement lends itself to uniformity in the installation of exhibits, which the size of the unit adopted permits to be carried out on a scale and in a manner commensurate with the large size of the halls.

The plan of three wings particularly adapts the building to the three departments representing the organization of the natural history collections, each of which is allotted an entire wing for its exhibi-

tion series, the overflow from each extending a greater or less distance into the adjacent ranges. The department of anthropology, which is centrally located with respect to the other two departments, occupies the north wing, the northern section of both ranges in the first story, and the entire east range in the second story, with an aggregate of 65,941 square feet of floor space, besides the 7,264 square feet used for the National Gallery of Art. The department of geology is assigned the east wing and the eastern section of the east range in the first story, with 47,691 square feet of floor space; while the department of biology has possession of the west wing, the western section of the west range in the first story, and the entire west range in the second story, with an aggregate of 64,398 square feet of space.

The magnitude of the task of installing the large area thus defined, of selecting, preparing, arranging, and labeling the great number and variety of specimens required, preceded by the planning and construction of the necessary cases, can be realized only by the few who have had experience in such matters. By expediting the work, by following along the lines of least resistance in order that the public might be denied access to the several parts of the building for as short a time as possible, the halls have been opened up in rapid succession, the last of them before the close of the past year. While to the casual visitor the installations may in the main seem altogether presentable, some of them are, in fact, still very incomplete, awaiting material which has been planned for and which to a greater or less extent is in course of preparation. In other cases the arrangements have been more or less provisional, demanding an extended revision in the matter of details which is steadily progressing, and the work of labeling remains largely to be done. It is to be understood, of course, that however thoroughly the above provisions may be carried out, the collections will be subject to changes and improvement during all time in order that the public may be kept in touch with the advancement of knowledge in natural history, and, through the introduction of better methods of illustration, may be led to a clearer understanding of the lessons which the exhibits are designed to convey.

On April 23, 1913, during the semicentennial celebration of the National Academy of Sciences, the arrangement of the mammal hall in the west wing having been effected, the south or main entrance of the building was first regularly opened to the public, which now has access to the great structure on both the north and south sides.

ANTHROPOLOGY.

Of the several divisions administered by the department of anthropology, four have been established in the new building as constituting together one of the great branches of natural history as now generally recognized by museums. They are physical anthropology, ethnology,

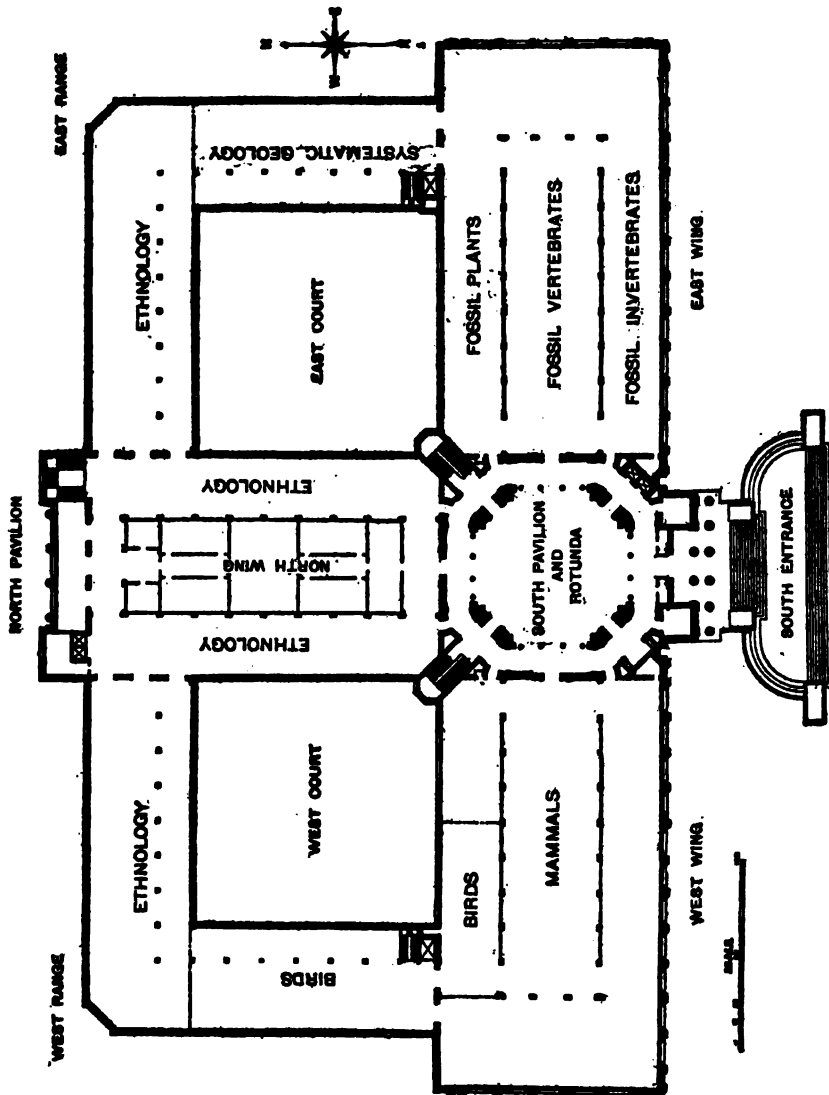
and archeology, which latter is here subdivided into Old World and American. Physical anthropology is not at present represented in the public halls, though an important exhibition of a technical character for the inspection of experts and students has been arranged in connection with the laboratory, as described farther on. Each of the other subjects, however, has been extensively illustrated on a popular basis of installation, though none the less instructive and important for the professional.

Ethnology.—This division occupies the entire area assigned to the department of anthropology in the first story, amounting in the aggregate to 35,474 square feet of floor space and comprising the following, namely: The full length of the northern sections of both ranges, each measuring 185 feet 6 inches long by 54 feet 2 inches wide; and all parts of the north wing outside of the enclosure for the paintings of the National Gallery of Art, including two side halls 187 feet long by 33 feet wide, besides a considerable amount of space at the ends of the wing.

The arrangement of the ethnological collections is geographical, the material belonging to each area being displayed as an assemblage or by classes of objects. The exhibits find their key in family lay-figure groups placed centrally in the halls, which typify the physical characteristics, the social organization, the manners and customs, and the arts and industries of selected human types. The design of the exhibition is to illustrate systematically the comparative differences in material culture and advancement of modern groups of mankind, thus giving an impression of the effects of environment and racial tendencies on the arts and industries of peoples. By means of the groups, and of individual figures, models of villages, paintings, transparencies, etc., the appearance of different peoples and the larger scope of their life is also shown. Wherever the collections are sufficiently large and full they are displayed in separate cases in accordance with a systematic arrangement, as costumes, textile art, household utensils, tools, weapons, transportation, artistic works, etc. A synopsis of an implement or product of an art belonging to a great area is also sometimes given, noting as examples the adz, the club, the spear and tapa cloth, which have a wide distribution. Another synoptical series showing the stages of development of implements and utensils has been prepared and awaits installation.

Of this exceedingly interesting and varied exhibition, which will before long be described in detail, only a brief summary can be given here. In the east range, beginning at the eastern end, are represented all the great regions of Africa, the Andaman and Nicobar Islands, Papua, Micronesia, Polynesia, the East Indies and the Philippines, the figures comprising costumed manikins of Africans, Veddahs, Papuans and Malays, and family groups of Negritos,

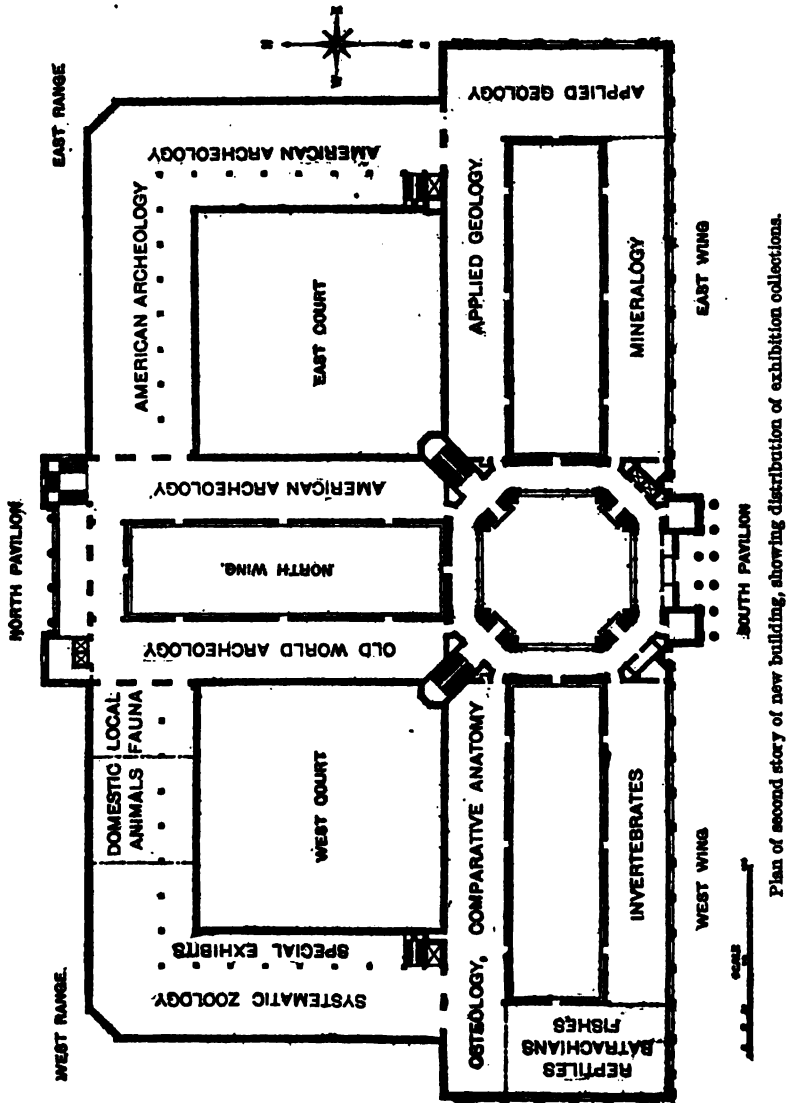
Igorots, Filipinos and Samoans. On the east side of the north wing, in continuation from the range, are the exhibits from India, Ceylon, Siam, Tibet, Mongolia, Turkestan, China, Japan, and the northwest coast of America, including a number of single figures and groups of Japanese, Ainos and Eskimo, and a series of paintings and enlarged



Plan of first story of new building, showing distribution of exhibition collections.

photographs placed above the cases on the wall. At the south end of the wing, adjoining the pavilion, are installed the totem posts and other carvings, paintings, baskets and textiles from the north Pacific region, besides Eskimo manikins, woodwork, armor, etc. The Eskimo exhibit is continued into the southern end of the western side

of the wing, and is followed by those of the Indians of northwestern Canada, the woodland States, the eastern and southern States, the northern and southern plains, and the Rocky Mountains, with figure groups of the Tlinkit of Alaska, the Tinne of Canada, the Kiowa, the



Navaho weaver and Navaho silversmith, the Zuni potter, the Cocopa and the Virginia Indians. The wall cases contain a number of single figures, while selections from the George Catlin collection of Indian paintings are arranged above the cases, and transparencies of both Eskimo and Indian subjects are displayed in the windows.

The west range is devoted to the Indians of California, Oregon and Washington, the Pueblo region, the southwest border States, Mexico, Central America, and South America, of which last area a majority of the grand ethnological divisions are represented. The family groups are of the Sioux, the Hupa of California, the Zuni, the Hopi, the Hopi snake dance, the Maya-Quiché, and the Patagonian. Two large models of typical Hopi-Pueblo villages occupy bases in the center of the hall, and interspersed among the exhibits here and elsewhere are numerous small cases of the Kensington type, containing groups of specimens of special interest, village group models, etc.

At the northern end of the north wing is an important exhibition of basketry. In four cases flanking the entrance to the art gallery are arranged many examples of these most interesting and pleasing objects of Indian skill and art, constituting a synopsis of the basketry work of the four regions of the world; while in the adjoining alcove, between the stairs and elevators, is a larger collection composed exclusively of American baskets, and containing type specimens for all of North America.

Old World archeology.—Embracing in its scope the antiquities of Europe, Asia, Africa and Australia, and the proximate islands, this division possesses but a very inadequate representation of the matters which pertain to it. The Government has conducted no explorations that would contribute to its resources, and the Museum itself has had few opportunities for directing material its way. Nevertheless, it has succeeded in assembling a varied and, in many respects, a most important collection, from which it has been possible to select for exhibition a very considerable series of specimens both interesting and instructive for the public. The space occupied is the elongate hall on the west side of the light well in the second story of the north wing, measuring about 187 feet 8 inches long by 31 feet wide, and the entire outer end of the wing, furnishing an aggregate of about 7,926 square feet of floor area.


The classification is in two great sections, the first embracing the culture of the so-called "historic nations," especially those settled around the Mediterranean basin (Assyro-Babylonian, Egyptian, Syro-Palestinian and Greco-Roman), from which our own civilization is largely derived; the second, the diversified cultures of various peoples, imperfectly or not at all represented in contemporary written records. To the latter belongs the large body of artifacts and osseous remains of man and of animals coeval with him in the very early stages of his development, generally referred to as the prehistoric or stone age.

The installations are as follows: The alcove at the northern end of the wing is mainly occupied by antiquities of Assyria and Egypt. In the center is a large mosaic taken from the floor of a Roman

temple at Carthage of two millenniums ago and representing a lion attacking a wild ass. On either side are facsimiles of the Rosetta Stone, and various Assyro-Babylonian and Palestinian monuments, while mounted on a screen is a large relief map of Palestine with two Palestine inscriptions, surrounded by a series of geographical and ethnographical photogravures. Three floor cases contain the more valuable Egyptian antiquities—a mummy, an original Greco-Egyptian painting, a facsimile of the Book of the Dead, inscribed papyri, potteries, stone implements, etc., while wall cases at either end of the alcove hold several well-preserved Egyptian mummy cases or coffins. The available wall space is used for reliefs in plaster illustrating phases of Egyptian and Assyrian history and mythology. In the passage adjoining the alcove are replicas of two colossal composite figures, the winged human-headed lion and bull, which once guarded the entrance to an Assyrian temple or palace, with a series of Egyptian and Assyro-Babylonian statues between them, the series being flanked at either end by casts of colossal statues from Syria-Hadad and Panamnu. The otherwise unoccupied wall space on both sides of the passage is covered with reliefs.

In the large western hall a continuous wall case on the east side contains in succession, beginning at the north, Egyptian antiquities, such as statues and busts of divinities and kings; a stone sphinx and various funerary paraphernalia; Assyro-Babylonian sculptures and utensils; Biblical coins and gems; a collection of Bibles and musical instruments of the Bible; Italian potteries; and reduced casts of upwards of 70 pieces of statuary and bas-reliefs illustrating Greco-Roman sculpture and mythology. Ranged on bases at the south end of the hall are casts of large sculpture (the Laocoon, Hermes of Andros, etc.), a model of the Parthenon, and a cast of a capital from the Temple of Castor in Rome. A selection of Hittite and Greek bas-reliefs is displayed on the wall space above the long case.

The floor space in this hall is occupied by two rows of cases, one extending through the middle, the other being on the window side. Interspaced between the 9 principal cases of the central row are small upright cases containing small collections of Italian bronzes, glassware, terra-cotta, mosaics and tiles, and potteries and tiles from Turkestan. In the main series are installed successively the finer and older figured Greek potteries, ranging in date from the 7th to the 4th century B. C.; Greek potteries and Etruscan bronzes; terra-cotta figurines and bronzes; bronzes found in various parts of Europe but mostly of Roman origin; a collection of stone and bone implements, bronzes and potteries from Troy, and a similar collection from Armenia; extensive series of Egyptian neolithic stone implements, and a few stone implements and other objects from Palestine, attributed to the paleolithic age; a large series of stone implements and



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primitive states of development, and the exhibits in the Museum are classified and arranged with the view of conveying all that can be brought out by objective material respecting this subject.

The hall on the east side of the north wing is devoted to the countries south of the United States. Beginning at the north are casts and originals of ancient Mexican sculptures, utensils, implements, and other objects of stone and clay, followed by corresponding exhibits from Guatemala, Honduras, Salvador, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Ecuador, Peru, Bolivia, Chile, Argentina, Uruguay, Paraguay, Brazil, and the Guianas. Several models of ancient Mexican buildings occupy a part of the central floor space, while casts of relief sculptures and glyptic inscriptions from Mexico and Central America are displayed on the walls. A number of overflow exhibits of minor antiquities belonging to Middle and South America have been provisionally installed in the east range.

Very special interest attaches to the above exhibits as they represent the highest achievements in various branches of culture attained by any of the American aborigines. The buildings, especially of the Maya race, shown in the models are works of astonishing elaboration of plan, mechanical perfection of construction, and beauty of embellishment, and the reliefs and glyptic inscriptions confirm the view that these peoples were advanced to the very threshold of civilization—a stage of progress corresponding with that of the most advanced nations of the Old World only a few millenniums ago. It is seen that the Aztecs of middle Mexico, the Zapotecs of southern Mexico, and the Incas of South America, while in some respects inferior in advancement to the Mayas of Yucatan and Guatemala, were also pressing hard up against the lower frontiers of the civilized state. The ancient peoples of northern Mexico, of the Isthmian region, and of northern South America were less advanced, while the great body of tribes of eastern and southern South America, ancient as well as modern, had not risen above the state of primitive savagery.

The east range, with the exception of a small space allotted to the British possessions, is wholly given up to the archeology of the United States. Forty-five large upright cases, distributed in three series through the entire length of the range, contain representative exhibits for the several States, beginning with Arizona and New Mexico and ending with New England. On account of the very large body of material from New Mexico, Arizona, and California, a number of cases are devoted to each of these States, while in some instances single cases accommodate the entire representation from two or more States, as Vermont, New Hampshire, Idaho, Montana, Mississippi, and Texas. Accompanying the above, in table cases, are illustrations of special features of exploration and the resultant collections, such as the contents of certain village sites, mounds, cemeteries, pueblos,

caverns, and cliff-dwellings, telling the story of the life and culture of the local tribes. Of particular popular interest are models of ancient pueblos, cliff-houses and villages, and also, though yet in an incomplete state, lay figures, colored to life, showing the practice of various industries, especially those concerned in the arts of stone working and metallurgy of the ancient peoples. Another series of table cases extending through the middle of the range, with a few at the sides, hold synoptic collections of relics illustrating each class of utensils and implements, as mortars, pestles, stone axes, copper implements, etc., conveying to the visitor a clear conception of the full range of form, the geographical distribution, and the material employed, and, with the aid of labels, the varied uses of the objects. Associated with these are numerous exhibits elucidating the industries of the aborigines, especially the quarrying of flint, obsidian, soapstone, and mica; the mining of copper, iron ore, turquoise, and paint; and the working of stone, metal, clay, bone, and shell, these being the most important features of aboriginal industrial life—the dynamic agencies of incipient civilization.

Physical anthropology.—Physical anthropology deals, in a comparative way, with the physical man, or man considered from the natural history standpoint, and endeavors to trace the processes and laws of his evolution and variation. In conjunction with other sciences it seeks a solid foundation for safeguarding the present welfare of the race and regulating its future development, and it also constitutes in part the physical basis for the science of psychology. The materials which have been assembled by the division represent normal man in his many differentiations, and embody extensive skeletal, brain, and other series to serve as a basis for research and comparison. As a result mainly of recent activities, the collections have been so built up as to comprise the largest and most comprehensive body of subject matter of physical anthropology in America. The arrangements in the laboratory are such as to facilitate the examination of material and the study of methods by specialists and students, and in two of the rooms a systematic exhibition series has been installed. Some of the more important subjects illustrated in the latter are the evolution of the human skeleton, the skull of primates compared with that of man, geologically ancient man and his forerunners, neolithic crania, the anatomical connection of present with early man and preceding forms, the development of the human skeleton, variations in the human skeleton, and senility and miscellaneous features. These exhibits are supplemented by numerous busts of pure-blood types of American Indians, portraits of prominent anthropologists, and a large series of modern and early anthropometric instruments.

BIOLOGY.

The exhibition collections of biology, at present restricted to zoology, comprehend a greater number of subdivisions than those of anthropology or geology. The principal of these are a general and comprehensive representation of the various groups of animals, in each of which groups the specimens are arranged faunally; a systematic series; a series illustrating comparative anatomy and the osteology of vertebrates; a series of domesticated animals; and a faunal series for the District of Columbia. Of a supplementary nature are a number of special exhibits illustrating interesting phases in zoology and noteworthy features of the collection.

The collections of the first subdivision occupy nearly two-thirds of the entire area allotted to the department, including the west wing and western section of the west range in the first story, and somewhat more than one-half of the same wing in the second story, with an aggregate of about 41,058 square feet of floor space. The other subjects are all provided for in the second story, where some 6,633 square feet are assigned to comparative anatomy and osteology; 8,459 square feet, to the systematic collection; 2,640 square feet, to the domestic animals; 1,724 square feet, to the faunal collection of the District of Columbia; and 3,884 square feet, to the special exhibits.

General series.—This series has been planned and arranged to illustrate for each group of animals or, in the case of the lower animals, for assemblages of groups, the geographical distribution of forms or types, which, under the restrictions as to space, can in the main only be carried out to the extent of showing the more important or more characteristic forms of each region. With regard to North America, however, the resources of the Museum permit and the general interests demand a more complete and detailed representation. Six primary regions have been recognized for the land animals, namely, the nearctic, or North America; the neotropical, or Central and South America; the palearctic, or northern and central Asia, all of Europe, and Africa north of the Desert of Sahara; the Ethiopian, or Africa south of the Sahara; the oriental, or India and the Malay Archipelago; and the Australasian, including Australia, New Guinea, and New Zealand.

The great majority of the specimens exhibited are mounted singly, but in the case of some of the more important and remarkable forms groups have been prepared, accompanied by accessories, to illustrate features of the habits and environment of the species. In all the preparations and especially those of recent years, it has been the endeavor to produce only work of the highest standard, combining scientific accuracy in reproducing form and pose with artistic skill in the manner of presentation. As a result, the collection contains

many examples of the taxidermist's art not surpassed elsewhere, and some which are probably unequalled. There remains to be replaced or made over, however, a certain amount of old material which has been retained on display in order that the several series may not present too many gaps.

Mammals.—The mammals occupy the entire first story of the west wing except a small section in the north aisle, or a floor space of 22,112 square feet. The great skylighted area contains the North American fauna, and also a limited number of forms from Central and South America. Most conspicuous among the features of this hall are 8 large groups representing the American bison, moose, musk ox, pronghorn, barren-ground caribou, woodland caribou, Rocky Mountain sheep, and Rocky Mountain goat. In cases against the walls, mounted singly, are different species of bears, seals, and ungulates. In the eastern part of the hall, that nearest the rotunda, are shown many of the smaller carnivores, such as wolves, foxes, cats, and skunks; small mustelids, such as the weasels and minks; an exceptionally fine specimen of the Alaskan sea otter; a family of badgers at their burrow; a number of the remarkable Texan armadillo among characteristic desert vegetation; a large walrus from Bering Sea; and sea lions and fur seals from California and Alaska. In the western part of the hall are the rodents, or rabbits, squirrels, mice, etc.; the insectivores, such as the shrews and moles; the bats; a group of prairie dogs near their burrow in company with a burrowing owl; and a group of opossums at the root of a tree, under which their rude nest is shown. Two wall and two small table cases at the extreme end of this area contain the mammals of Central and South America, a very incomplete series.

The palearctic fauna, which has been assigned the eastern part of the north aisle to a distance of about 74 feet from the pavilion wall, begins with a group of Spitzbergen polar bears, followed successively by a fine specimen of the Mongolian tiger; many representatives of the ungulates, such as the roebuck, the true elk or European moose, the European bison, the chamois of the Alps, the rare and remarkable Chinese antelope called the takin, and various wild sheep; and numerous examples of the smaller carnivores, insectivores, and rodents. Among the rodents is a series of various species of rats so mounted as to clearly present the differences between the several forms of these animals which have lately attracted so much attention as carriers of the germs of bubonic plague.

The oriental series occupies a position and area in the south aisle corresponding with those of the palearctic fauna in the north aisle. It is adjoined by the Australasian series, limited to a single bay of 18½ feet, and this in turn is followed by the Ethiopian or African series, which is continued into and fills the entire outer end of the wing,

with an aggregate of about 7,760 square feet of space. Most prominent in the oriental series are three groups of monkeys mounted in sections of tree tops of the forests of Borneo, the work of able taxidermists by whom they also were collected, which guarantees their truthfulness to nature. The largest group is of the orang-utan, one of the most manlike of the great apes. The others are of the long-armed gibbon, also usually referred to the anthropoid apes, and the proboscis monkey, remarkable for its protruding nose. Belonging likewise to this fauna are other oriental monkeys; several ungulates, such as the tapir, antelope, and deer; a selected series of Malayan squirrels; a number of carnivores, including a fine example of the Indian tiger; a model of the Ganges dolphin, a large dugong or sea cow, fruit bats, flying lemurs, the Indian pangolin, and characteristic oriental rodents, including the large Malayan flying squirrels. The region of Australasia is represented by numerous species of kangaroo, the wombats, the marsupial wolf, the two echidnas, the remarkable duckbill, and a specimen of the dingo or Australian dog.

The African mammals installed in the south aisle comprise wild hogs, monkeys, including the anthropoid gorilla and chimpanzee, lemurs, hyenas, jackals, and various large cats, the singular aardvark or African anteater, and examples of the African pangolin or manis and of insectivores. The most striking part of the African exhibition, however, is in the wide hall at the outer end of the wing, which contains 5 groups of large and characteristic forms, the latest productions of the taxidermist's art, illustrating to a marked degree how effectively the very presence of great animals in their natural habitat can be represented in permanent museum preparations. The first of these groups consists of a family of lions, a male, two females and two cubs, coming down to a water hole dug by zebras in a dry river bed. Large as is the case containing this exhibit, it is greatly exceeded by the other four, each of which measures 17 feet by 12 feet and requires for the sides the largest size of plate glass manufactured. Next to the lion group comes that of the kongoni or Cooke's hartebeest, comprising six individuals mounted in different attitudes in the midst of characteristic surroundings, the earth and plants for this purpose having been brought from the haunts of the species in Africa. Third in the series is a superb presentation of the white rhinoceros, male, female and calf, with accessories also from Africa, which is followed by groups of the water buffalo and Grevy's zebra, the latter including two oryx antelopes, which are often associated with the zebra in nature. The lion, buffalo, zebra and antelope groups were prepared by Mr. G. B. Turner, chief taxidermist of the Museum; and those of the hartebeests and rhinoceri by Mr. James L. Clark, of New York. The specimens used were selected from the

collection made in 1909 and 1910 by the Smithsonian African Expedition under the direction of Col. Theodore Roosevelt.

In wall cases partly surrounding the above exhibits is shown a great variety of selected types of African antelopes, besides representatives of other groups, including a young African elephant and a fine specimen of the nearly extinct Burchell's zebra. The following are displayed separately, namely, a group of horse-tail monkeys from Kilimanjaro, represented as playing among the foliage of a large tree; a very large giraffe, too tall to be inclosed in glass; and a well-preserved example of the recently discovered and very rare okapi, a near relative of the giraffe and an inhabitant of the impenetrable forests of the Belgian Congo.

Birds.—The exhibition of birds begins in the north aisle of the west wing on the main floor, of which it occupies a length of about 92 feet, and is continued thence into and throughout the western section of the west range a distance of 131 feet 4 inches, covering a total floor area of 9,652 square feet. The wing contains the pale-arctic, the oriental, and the African faunas. In the first mentioned are such familiar European forms as the stork, lammergeier, bustard, nightingale, true robin, true oriole, capercailzie, black grouse, true partridge, and quail. A pair of English song thrushes with their nest full of young constitutes a dainty piece of group-making, and conspicuous in the series is a beautiful display of the various Asiatic pheasants. Among the oriental birds are the grotesque Indian "adjutant," the wild peacock, the wild jungle fowl, from which our domestic breeds are supposed to have been derived, various horn-bills, which are among the most characteristic of oriental birds, and two showy groups, one of the rhinoceros bird, the other of the argus pheasant. In the African series, which is as remarkable as the oriental, are seen the diminutive love birds, the whydah finches with their long, flowing tail feathers, the weaver birds, gorgeous rollers, many parrots, the plantain eaters, the emerald cuckoos, the sunbirds, a goatsucker with two remarkable appendages, wild Guinea fowl, the crowned crane, the saddle-billed stork, and the sacred ibis. A bird rarely seen in museums, the large whale-headed stork, which inhabits solely the country of the Upper Nile, is represented by two exceptionally fine specimens.

Entering the west range, one comes first upon the Australasian series, which contains a great variety of splendidly colored birds. Especially notable is a fine display of birds of paradise and of parrots. Among other forms shown are the giant kingfisher, known as the "laughing-jackass," the brush turkey, which places its eggs in mounds of soil and decaying vegetation to be hatched without further attention from the parents, the wonderful "crowned" pigeons from New Guinea, the black swan, the cassowary, the emu, the kiwis of

New Zealand, and several species of penguins. The kea, or sheep-eating parrots of New Zealand, and the lyre birds of Australia are represented in two groups; and installed in a case by themselves are the smaller passerine birds of Australia, New Zealand, and Hawaii. Next follows the neotropical or Central and South American fauna, with a large assemblage of parrots, including the gorgeous macaws, and of toucans, with their huge vari-colored bills. Other typical forms are the quetzal, the national bird of Guatemala, with its graceful, resplendent tail; the curassow and ocellated turkey, among game birds; the humming birds, of which there is a rich assortment; the black-necked swan and other water and shore birds, the curious hoactzin, the condor, the rhea or South American ostrich, the tinamou, and the penguin.

The last of the avian faunas, the nearctic or North American, is allotted a much larger area than any of the others, aggregating 4,225 square feet, to permit of a fuller representation of the birds belonging to this country, and, therefore, of most direct interest to our own people, and especially to students and amateurs, the plan being to show as many of the species as possible, and to illustrate marked differences when such occur in the appearance of the male, female, and young of the same species. An enumeration of the species exhibited would be out of place here, but included among the rarer forms and more striking features are the great auk and Labrador duck, both of which are extinct; and the following mounted in groups, namely, the passenger pigeon, of which only a single living specimen, preserved in the Cincinnati Zoological Garden, is known; the Carolina parakeet which is nearing extinction, two hawks fighting over a ruffed grouse, the American flamingoes and their nests, Mexican jacanas among water lilies, the butcher birds and their "larder," the prairie chicken and sage hen, and the ruffed or dusky grouse.

Reptiles, batrachians and fishes.—These groups occupy jointly a space in the large hall at the outer end of the west wing in the second story, measuring about 85 feet long by 46 feet 6 inches wide. The fishes are installed in large wall cases on two sides of the hall and in a few table cases, while the reptiles and batrachians are at present wholly provided for in table cases. The most interesting part of the exhibition of reptiles and batrachians is in the form of casts made from fresh specimens and painted in excellent imitation of the natural colors. The species so represented are mainly North American, with a few exotic ones, such as are occasionally brought here alive and kept in captivity. Among tropical forms are the big pythons and boas, the common cobra and the king cobra, the latter two being considered the most deadly of all snakes. The exhibit of foreign species is being rounded out by means of alcoholic specimens, which are in course of preparation for the purpose. The

fishes are shown in the same way as the reptiles, the collection of casts representing a wide range of forms. Most of the casts are placed against wall surfaces in the backs of cases, but the flounders are displayed on a sandy bottom in table cases. A special feature consists of a series of enlarged models of deep-sea fishes of extraordinary appearance, such as the grotesque pelican fish with its enormous mouth, the viper fish with its protruding fangs, the angler with its light-emitting bulb, and the luminous fish, conspicuous in having numerous phosphorescent spots along the body. The only group so far introduced is one of the so-called walking fishes which are represented as skipping about by means of their pectoral fins on the mud flat of a mangrove swamp.

Invertebrates.—The faunal display of marine and other invertebrates has been assigned the south hall in the second story of the west wing, which measures 169 feet 7 inches long by 31 feet 6 inches wide. As the exhibit is being built up wholly anew and will contain a large number of specimens prepared in a manner not previously attempted, the work upon the collection has, of necessity, advanced much more slowly than in any of the other sections. It is still in a very incomplete state, but by the introduction of certain temporary installations the hall has been made sufficiently presentable to warrant its being kept open to visitors. As regards marine invertebrates, the scheme contemplates the illustration of a number of distinct littoral faunal regions, and of the deep sea, by characteristic forms belonging to the various groups of animals which inhabit them, to be supplemented by group assemblages in which relationships and environment can be more definitely demonstrated. The littoral faunas with which most progress has been made are three in number, namely, from the Arctic Ocean to Cape Cod, from Cape Cod to Cape Hatteras, and the Floridian.

Vertebrate osteology and comparative anatomy.—The collections illustrating these subjects occupy the entire length of the north side of the west wing in the second story, an area 216 feet long by 31 feet 2 inches wide. The osteological series is, in its purpose, most nearly akin to, and may, in fact, be regarded as a part of, the systematic collection in the adjoining range. It represents only selected examples of supergeneric types with no attempt at showing specific differences, and, notwithstanding the difficulty of exhibiting skeletons in a manner attractive to the public, it is felt that the installation has been made especially effective and instructive.

In the passageway between the wing and the range are the mounted skeletons of a horse and a man, labeled to bring out the homologies of the bones in these very dissimilar species. In the middle of the adjacent space is a series of skeletons of the primates, showing the differences and similarities in the bony structure of the various groups

from the most generalized types to the orang, chimpanzee, gorilla, and man. At the western end of the hall are skeletons of carnivores, pinnipeds and small whales, followed by those of other mammal groups, noteworthy among which are the Asiatic and African elephants, the giraffe and the American bison. Provision has been made for suspending the skeletons of whales of medium size from the ceiling, but for the skeletons of large species accommodations must be found elsewhere. After the mammals come the birds, reptiles, batrachians and fishes, completing the systematic series. Notable among these are the skeletons of snakes, beautiful in their curvature and repetition of uniform detail, and the cartilaginous skeletons of certain fishes, which require to be displayed in a preserving fluid. Next, in a single case, is illustrated the comparative skeletal anatomy of the vertebrate classes by means of the articulated and disarticulated skeletons of a fish, a tailed amphibian, a frog, a lizard, a turtle, a bird, a monotreme and a mammal. At the eastern end of the hall are several cases of anatomical representations in the form of preparations from the animal body itself and of finely executed models. The collection ends with an illustration of the chemical constituents of animal bodies.

Systematic series.—Beginning at its juncture with the west wing, this series extends through the western section of the west range and some 90 feet into the northern section. It does not, however, occupy the entire width of the range, as the space between the line of piers and the court walls is used for special topics. The total floor area devoted to the subject is about 8,460 square feet.

This collection is designed to present a general review or synopsis of the animal kingdom, arranged in systematic sequence from the lower to the higher groups. The family is the lowest subdivision recognized, one species being used for each, except where great variety of form exists within the family, when some of the more divergent types are added. With the vertebrates, except some of the lowest forms, the representation is restricted to external form and characters, the internal parts being elucidated by the anatomical collection above described. With the invertebrates, however, the complete structure, so far as it is brought out in any part of the exhibition, is illustrated in this series. A wide diversity of method for the representation of forms has been called for. Preparations of the animals themselves have been utilized to the fullest extent possible and compose the great bulk of the collection. For the minute forms and for such larger ones as are still among the desiderata of the Museum, recourse has been had to models and drawings. For some of the largest vertebrates of which it is impracticable to display full-grown specimens, young individuals or pictures have been substituted. The whales have presented the greatest diffi-

culties and the few species so far included in the series are illustrated by means of casts and models.

Domestic animals.—A full demonstration of all the races of animals that have been produced by domestication would require a very much greater extent of floor space than could be spared for that subject, and such a display, moreover, is not within the purpose of the Museum exhibition. In an area of about 2,640 square feet adjoining the systematic series, however, an attempt is being made to illustrate some of the more remarkable results of man's interference with the natural evolution of animals, though even within the limitation fixed the series is still very incomplete. The collection includes a number of skeletons designed to show that the modifications following domestication are not solely confined to external characters, and specimens of the wild stock where such is known have been or will be introduced.

Among birds the domestic fowl is most prominently represented, many breeds, though not nearly all that are recognized by fanciers, being exhibited. Though prepared several years ago and requiring to be amplified, the collection as it is furnishes a good idea of the range of variation that has been produced, and includes many specimens that were awarded premiums at important shows. It is partly installed in a group arrangement with surroundings in imitation of a barnyard, and partly as individual specimens on shelves. The turkey and peafowl are also represented, as are many breeds of the common pigeon, the latter being centered about a dovecot. Of mammals comparatively few forms are at present shown, among these being the horse, dog, sheep, goat, two forms of Asiatic cattle, namely, the yak and the zebu or Indian ox, and three representatives of the camel family, the llama, the alpaca and the Arabian camel.

Fauna of the District of Columbia.—The local faunal exhibit, the last of the regular biological series, still only in process of formation, is allotted 1,724 square feet of floor space at the eastern end of the northern section of the west range, where it adjoins the north wing. It is planned to make this collection of particular interest to the local students of biology and an important aid to the teaching of zoology in the District schools. Every species of animal living in the District of Columbia is intended to be represented by at least a single specimen, and also such former inhabitants, as the game birds, which have been driven from the region through the agency of man. The groups in which more or less progress has already been made are the mammals, birds, reptiles and batrachians, fishes and mollusks.

Special exhibits.—For the special zoological features provision has been made in the space intervening between the row of large rectangular piers and the court walls in the second story of the west range. Measuring about 17½ feet wide, this space is divided by the piers into

successive bays each about 18½ feet across, furnishing appropriate dimensions for these several exhibits. As little material had been prepared for them before the occupation of the building, they will remain in a formative stage for some time yet, though in several subjects the installations are sufficiently advanced to be opened to the public. These are as follows: The eggs and nests of birds, animal architecture, phases of evolution, mimicry, albinism, melanism, the cotton boll weevil, and the distribution of the Rocky Mountain grasshopper. Another special exhibition already fully installed consists of the beautiful collection of corals secured by the United States Exploring Expedition around the World from 1838 to 1842, under command of Lieut. (afterwards Rear Admiral) Charles Wilkes, U. S. Navy, comprising a large share of the type specimens described by James D. Dana in his classic work on the subject.

GEOLOGY.

The exhibition collections of the department of geology are classified and arranged under four general heads, namely, systematic geology, mineralogy, applied geology and paleontology.

Systematic geology.—Systematic or physical and chemical geology occupies the eastern section of the east range in the first story to a distance of 131 feet 4 inches from the adjoining wing, with a floor area of approximately 6,769 square feet. First in order come the rock or petrological exhibits, installed in 1 wall and 5 upright floor cases. They begin with a series of the more common elements found in either a free or combined state in the rocks forming any essential feature of the earth's crust; are followed by a series of the ordinary rock-forming minerals representing the combinations of these elements, and these, in turn, by a series illustrating all the common rock types in the form of hand specimens about 3½ by 4½ inches in lateral dimensions. Supplementing these introductory collections are several series showing the changes which rock masses have undergone through chemical and dynamic agencies, such as crushing, faulting, and the various phases of metamorphism. They are contained in 7 upright floor cases of double-unit size, and are classified as follows: Rock weathering, glacial phenomena, concretions, faults and other structural forms, calcareous and siliceous sinter, cave phenomena and other illustrations of cold water deposition, volcanoes and volcanic phenomena, deep-sea dredgings and minor geological phenomena.

Constituting an especially interesting feature of the hall are the meteorites, which, while properly classed as rocks, are kept apart as illustrating world-making materials. The collection fills 1 large and 2 small cases, and an especially large example is mounted on a separate base. It numbers 713 specimens, representing 321 falls, and ranks

third among museum collections in this country, being exceeded only by those in the Field Museum of Natural History and the American Museum of Natural History, while abroad it is surpassed only by the collections in the British Museum and the museum of natural history at Vienna. Also installed in this hall is the Shepard collection of meteorites, comprising 464 specimens, representing 237 falls, which has been on deposit in the Museum for some years.

Writing upon the subject, Dr. George P. Merrill has remarked that the interest in this collection is partly geological and partly astronomical. It is now generally understood that whatever theory one may accept regarding world formation, for the materials of which the world is formed one must look to outside sources—that is, to space. While astronomy and the spectroscope have shown a close similarity, if not identity, in kinds of materials throughout the universe, the meteorites after all give the only really tangible clue to the stony nature of celestial bodies. Their study with particular reference to their efficiency as world-making material is, therefore, peculiarly instructive, and it is greatly to be deplored that their rarity and the fascination attached to them by reason of their source has caused them to be sought by those who are mere collectors, and has so forced their prices as almost to prohibit their use in scientific research.

Mineralogy.—The collections of mineralogy and applied geology occupy jointly the entire second story of the east wing. Mineralogy, however, is confined to the hall on the south side of the light well, measuring 169 feet 7 inches long by 31 feet 6 inches wide and furnishing 5,342 square feet of floor space. The installation comprehends three series of exhibits. The first is a systematic one, in which an attempt is made to show all the known mineral species, which are arranged according to the classification of E. S. Dana, in his "System of Mineralogy," in 14 American cases along the north side of the hall. The second consists of specimens of the same nature, less systematically arranged, but notable for their beauty and exceptional size, which latter prevents their incorporation in the systematic series. It is mainly displayed in 9 upright floor cases on the south side of the hall, and conspicuous among its features are illustrations of the occurrence in nature of silica and carbonate of lime. A group of Brazilian amethysts, a large beryl from Ackworth, N. H., and a copper boulder from Ontonagon, Mich., are mounted on bases, and contained in a small case is an exhibit of such nongaseous elements as occur uncombined in nature.

The third series in the mineral hall consists of the gems and precious stones composing what is known as the Isaac Lea Collection, which ranks second among the public collections of its kind in this country. It had its beginning in an exhibit of precious stones made by the National Museum at the Cincinnati and New Orleans expositions in

1884-85, was added to by the purchase of the Leidy collection of gems in 1894, and was later very materially increased through the acquisition, by bequest, of the important collection of Dr. Isaac Lea, of Philadelphia. Since then its growth has been fairly rapid and systematic, owing largely to the generous cooperation of the late Rev. Dr. L. T. Chamberlain, son-in-law of Dr. Lea and an honorary associate of the Museum. The collection is installed in a series of flat-top cases, of new and exceptionally pleasing pattern, which extends through the center of the hall. It bears the same relation to the systematic collection of minerals as does the collection of building and ornamental stones to that of systematic geology, and has naturally proved to be one of the most popular of all the exhibits. An effort has been made to represent all the more common gems and precious stones with special reference to those occurring in North America. The specimens are largely in cut and polished form, ready for use. In extending the exhibit it is planned, so far as possible, to show the unworked material side by side with the cut, in order that the public may become acquainted with the appearance of the different varieties in their natural state. It is also intended to give special attention to the possible utilization for ornamental purposes of certain stones which are in themselves of little commercial value, and this has already been done to good advantage in a series of cabochons cut from fossil wood. Among the more unique and striking specimens in the collection are a large, rich green, brilliant cut tourmaline weighing 57½ carats, from Paris, Me.; sapphires and rubies from the now abandoned Jenks corundum mine in North Carolina; a 15-carat cut emerald from Portland, Conn.; and a series of cut hiddenites from Alexander County, N. C.

As introductory to and grading into the province of economic geology, there is installed at the outer end of the hall a selected series of the rocks and minerals from the diamond mines of South Africa, the gift of Mr. Gardner F. Williams, and another of gold nuggets and crystals, each displayed in a single case. The large copper boulder above referred to is also placed here.

Applied geology.—The space devoted to economic or applied geology is the north hall and outer end of the east wing in the second story, amounting to 10,585 square feet. The classification is here also in three series, first, the metallic ores, such as those of gold, silver, copper, etc.; second, the nonmetallic minerals; and, third, the building and ornamental stones. The metallic and nonmetallic exhibits are contained in 5 double and 10 single-unit upright floor cases and 15 American cases. They are planned to show, as far as possible, typical material with reference to both geological and geographical distribution, and, as at present installed, they are believed to be second to none in the country in completeness and systematic arrangement.

The collection of building and ornamental stones owes its conception to Dr. George W. Hawes, curator of geology in the Museum during the last year and a half of his life, who undertook, in connection with the work of the Tenth Census, a systematic study of the building stone resources of the United States, the results of which were published in one of the reports of that Census. Since then every effort has been made to keep the collection up to date, and it is believed now to fairly represent all of the kinds of building and ornamental stones obtainable in the country, and also the more important materials of the same nature which are imported from abroad. It comprises at present 2,548 specimens, mostly in the form of 4-inch cubes, which are installed in 18 floor upright cases specially designed for the purpose. In addition to these there are 13 rectangular bases or pedestals, with stone panels and tops, for the exhibition of certain materials of which it was desirable to have larger samples than could be incorporated in the regular systematic series. In connection with the building up of this collection as complete records as possible have been kept of the tests made upon the varieties of stone represented by the samples, and of the weathering and other qualities of building stones in general, making the collection of extreme usefulness in respect to all industries with which it may have relations.

Paleontology.—The paleontological collections have entire possession of the main story in the east wing, in which paleobotany occupies the north aisle, 151 feet long by 31 feet 8 inches wide, with 4,782 square feet of floor space; the fossil invertebrates, the southern side of the wing to a distance of about 198 feet from the pavilion and a width of 31 feet 11 inches, with 6,320 square feet of floor space; and the fossil vertebrates, the large skylighted area and most of the outer end of the wing, with 13,893 square feet of floor space.

The exhibition in paleobotany comprises a stratigraphical series of specimens illustrating all the important plant-bearing horizons, and a number of special features. The Carboniferous material, derived from the Lacoe bequest, is especially notable for the number, large size and splendid preservation of the specimens. The Mesozoic and Cenozoic plants are less well represented, but this condition will be remedied with the progress of the work of the Geological Survey in the western coal fields. The interest of the public in these natural wonders has led to the introduction of a case of petrified wood from the fossil forest of Arizona, the Yellowstone National Park and other localities, and many of the specimens have been polished to bring out their rich coloring. A number of large tree trunks and other exhibits have been arranged between the cases; the south wall has been partly utilized for enlarged drawings and specimens, and a large, very primitive Devonian tree, and an exceptionally large and fine example of a Carboniferous *Lepidodendron* have been mounted against the west wall.

The exhibition in invertebrate paleontology begins with a large mount showing a Cambrian sea beach, with numerous ripple marks and animal tracks crossing the sandstone. Large slabs illustrating the various types of near-shore sedimentation with their contained fossil remains, and colonies of Cretaceous, Devonian, and Mississippian crinoids, further represent the occurrence of ancient life; while the superposition of various rock formations is shown by means of a geological column of the strata found in New Hampshire. A case of specimens from the Middle Cambrian deposits near Field, British Columbia, serves to demonstrate both the significance of a fossil fauna and the perfection of preservation sometimes obtaining among fossil forms. Next are illustrated the general methods of fossilization and the usual conditions of preservation of fossils, followed by a number of cases devoted to the evolution of all the important groups of fossil invertebrates. The very rare medusæ, the crinoids and the insects are especially well represented in this series, though in no group is the material scanty. For the student of geology a stratigraphic series of the common and characteristic fossils of the various geological horizons of North America, accompanied by hand specimens of the characteristic rocks of each formation, occupies an adapted form of American case which extends uninterruptedly along the north wall. Mounted directly above this exhibit is a continuous geological section across the American continent on a scale of 2 miles to the inch, and measuring 90 feet long. Lack of space has prevented the introduction of collections illustrating geographical distribution in any detail, the only exception in this regard being the I. H. Harris collection from the widely-known Cincinnati region, which is displayed in 2 cases.

On account of their great variation in size, it has not been feasible to arrange the exhibits in vertebrate paleontology as systematically as in the two other sections of the division. In a general way, however, the western half of the large hall has been mainly allotted to the larger mammals, and the eastern part to the reptiles and birds. Occupying the center of the floor, immediately after entering from the rotunda, is the restored skeleton of an immense whale-like creature, popularly known as the zeuglodon (*Basilosaurus*), which inhabited the seas of the southern coastal plain of the United States in early Tertiary times. While numerous fragments of the bones of this animal have been found, the specimen on exhibition is the most perfect one known. To the right and left, respectively, of the zeuglodon, are quite complete skeletons of the American mastodon (*Mammut americanum*) from the peat bogs of Michigan, and the giant deer (*Alce gigantea*), commonly termed the Irish elk, from the Pleistocene clays of Ireland. Series of smaller specimens are arranged in cases and framed mountings along the walls, among them

being illustrations of the evolution of the horse and many forms of fishes. In the center of the eastern part of the skylighted hall is the large, unique, three-horned dinosaur (*Triceratops prorsus*), of which the skull alone measures 6 feet long. Mounted upright against the adjacent walls are two other exceptionally fine specimens of dinosaurs, besides an example of the duck-billed reptile, *Trachodon annectens*, over 26 feet long, and a skeleton of the carnivorous reptile, *Ceratosaurus nasicornis*, of almost equal size. Another exhibit of special interest consists of the skeleton of the large armoured dinosaur *Stegosaurus stenops*, accompanied by a full-sized model representing this reptile as it appeared in life. In the eastern part of the wing are exhibited the extinct birds, of which the toothed *Hesperornis* from the chalk deposits of Kansas and the giant moa are especially noteworthy.

OPERATIONS OF THE YEAR.

APPROPRIATIONS.

The appropriations for the maintenance and operations of the National Museum for the year covered by this report, namely, from July 1, 1912, to June 30, 1913, inclusive, contained in the sundry civil act approved August 24, 1912, were as follows:

Preservation of collections.....	\$300,000
Furniture and fixtures.....	50,000
Heating and lighting.....	50,000
Building repairs.....	10,000
Purchase of books.....	2,000
Postage.....	500
Printing and binding.....	34,000
Total.....	446,500

The sundry civil act approved June 23, 1913, makes the following provisions for the year ending June 30, 1914:

Preservation of collections.....	\$300,000
Furniture and fixtures.....	50,000
Heating and lighting.....	50,000
Building repairs.....	10,000
Purchase of books.....	2,000
Postage.....	500
Printing and binding.....	37,500
Total.....	450,000

BUILDINGS AND EQUIPMENT.

The most important repair work of the year consisted in further remedying certain defects in the roofs of the new building, to which attention was called in the last report. The remainder of the insecure copper cresting, amounting to about 736 running feet, was refastened in what is regarded as a thoroughly satisfactory manner, and some 1,524 lineal feet of the damaged copper gutters were replaced with the best quality of tin, which it is confidently expected will be lasting. The repairs to the older Museum building were mostly in the interior. The ceilings in this structure consist mainly of wooden lathing attached to the under side of the roofs and filled in with plaster which has gradually disintegrated and from time to time has fallen in such quantities as to menace the collections. A covering of thin sheet steel has proved the best and most economical

remedy for this condition, and during last year the ceilings over all or parts of four halls were so treated. Some of the walls were also pointed up and painted, and the renovation of the toilet rooms, begun the previous year, was completed. In the Smithsonian building the many large windows in the main or exhibition story, which have received but slight attention for many years, were found to be so dilapidated as to necessitate the entire renewal of 45 of the sashes and the extensive overhauling of the others. The roofs required some repairs, and the west basement of the building, formerly occupied by the alcoholic collections, was partly renovated, though its floors, which are badly rotted, have still to be replaced.

The power plant was operated satisfactorily and with comparatively few repairs. As in the previous year, it was closed down during two months of the summer, July and August, for overhauling, the work being done by Museum employees and such electric current as was required being purchased from the local power company at greatly reduced rates. The consumption of coal amounted to 2,660 tons, and steam was generated for heating purposes from October 1, 1912, to May 17, 1913. Improvements made in the distributing pipes to the older buildings are expected to result in a much more economical service. It is also interesting to note that in the production of ice by the plant introduced for that purpose three years ago a saving has already been effected which exceeds the original cost of the plant. Among new mechanical features added were a central air compressor plant for more economically furnishing power for certain minor purposes, and three thermostats for automatically regulating the temperature in the auditorium. The installation of devices for automatically opening and closing the doors on the north passenger elevators was begun, though not completed, before the close of the year.

Electric-lighting fixtures were added in places not heretofore permanently provided with them as follows: A circular Frink mirror reflector, carrying 56 40-watt tungsten lamps, above the eye of the ceiling dome of the rotunda; a series of 24 suspended fixtures in the second gallery of the south pavilion; and a system of low concealed lamps in the upper gallery of the pavilion, with reflectors arranged to throw the light upward against the walls and ceilings. Before the end of the year a contract had been concluded for furnishing 8 bronze electric-light standards to be placed at the corners of the pier balconies at the height of the first gallery for the general illumination of the rotunda; and the work of replacing the drinking-water faucets in the public halls with sanitary bubbling fountains had been commenced.

The furniture acquired during the year comprised 192 exhibition cases, 256 storage cases and pieces of laboratory furniture, 271 pieces

of office and miscellaneous furniture, 1,585 unit specimen drawers of wood, 500 insect drawers, and 1,061 miscellaneous specimen drawers. An inventory of all furniture at the close of the year shows that there were on hand at that time 3,414 exhibition cases, 6,616 storage cases and pieces of laboratory furniture, 3,270 pieces of office and miscellaneous furniture, 37,660 unit specimen drawers of wood, 4,712 unit specimen drawers of steel, 7,839 insect drawers, and 16,024 miscellaneous specimen drawers and boxes of various sizes.

COLLECTIONS.

The total number of accessions received during the year was 1,378, embracing as permanent acquisitions approximately 302,132 specimens and objects, apportioned among the several branches of the Museum as follows: Anthropology, 26,999; zoology, 113,509; botany, 140,015; geology, 5,569; paleontology, 14,716; textiles and vegetable products, 1,312; National Gallery of Art, 12 paintings. Of the specimens assigned to anthropology over 20,000 were postage stamps belonging in the division of history; and of zoological specimens over 97,000 were insects, mollusks, and other invertebrates. The loans received for exhibition comprised several hundred objects, principally historical and ethnological, but including 18 paintings and 2 pieces of sculpture for the National Gallery of Art.

DEPARTMENT OF ANTHROPOLOGY.

Ethnology.—The additions to the division of ethnology were comprised in 64 accessions, more than one-half of which were donations, and while none of these was extensive, several were especially valuable and the more important related to countries other than North America. A noteworthy collection made in the Philippine Islands by the late Maj. Gen. Frederick D. Grant, U. S. Army, consisting of swords, spears, bows and arrows, and other articles, several of which are of types new to the Museum, was presented by Mrs. Grant; and an interesting series of Filipino weapons and other objects, assembled by the late Maj. H. G. Lyon, U. S. Army, was contributed by Mrs. Lyon. A number of articles illustrating the culture of the Central Sakai, a primitive tribe of the Batang Padang District of Perak, Federated Malay States, including bark cloth, bamboo arrows, personal ornaments, etc., were received as a gift from the Federated Malay States Museums at Kuala Lumpur. A Japanese lady's court dress, a Chinese lady's dress, and a Norwegian peasant's bridal dress, together with the manikins for their display and the ornaments appropriate to be worn with the costumes, were donated by Miss Clementina Furniss, of New York; and a collection of India shawls and scarfs in needlework and print, Chinese and Japanese arms and

armor, lacquers, fans, etc., was presented by Miss Isabel C. Freeman and Mrs. B. H. Buckingham, of Washington. A sacred fire-drill of wood, used in the Idzumo shrine of the great Idzumo Temple of Japan, was received from Baron Senge of the Temple through Mr. N. Tsuda, directorial assistant of the Imperial Museum of Tokyo. A series of specimens from the Guayaki Indians of Paraguay was contributed by Mr. Frederick C. Mayntzhusen, of Yaguarazapa, Paraguay; and a number of interesting weapons from East Africa were received from Dr. W. L. Abbott, through Miss Gertrude Abbott, of Philadelphia. For four Aleutian baskets of a type which is becoming rare the division was indebted to Mrs. L. C. Fletcher, of Washington.

The most important collection purchased was one representing the industries, now rapidly disappearing, of the Chippewa Indians of Minnesota, which had been assembled by Miss Frances Densmore. It comprises examples of looms and textile materials for making belts and bags, of tools and materials for working in bark and rushes, with specimens of the finished work, and of tools and tanned skins used in leather work, besides rattles and other ceremonial paraphernalia, an old birch-bark record, and a series of articles illustrating the maple sugar industry. Among other purchases were costumes, basketry, pottery, agricultural implements, and games of the Mohave Indians of Arizona; two women's buckskin dresses, profusely ornamented, together with a number of tools and other articles from the tribes of northern California; and numerous objects, including rare examples of sacred bundles, obtained through the help of members of the Bureau of American Ethnology. Especially valuable was a large series of objects, consisting of costumes, pouches, necklaces and other personal ornaments, clubs, flutes, and baskets, collected by Mr. John Ogilvie among the Indians in the interior of Dutch Guiana, South America, where white men have rarely penetrated, and showing no trace of extraneous influence.

The more noteworthy loans for exhibition comprised basketry, beadwork, etc., principally of the North American Indians, from Mrs. L. C. Fletcher; old serapes of beautiful weave, woven bags, and Mexican ecclesiastical objects, crosses, reliquaries, amulets, paintings, etc., from Maj. Harry S. Bryan, of Mexico City; ancient oriental weapons, including sabers, scimiters, swords, yataghans, daggers, pistols, and guns, from Mr. George Kennan; and an interesting addition to the collection of Mrs. Julian James, consisting of numerous oriental and other weapons and fabrics, fans, brocades, satins, basketry, ornaments, photographs, musical instruments, and lacquer and tortoise-shell work, which had in part been assembled by Theodorus Bailey Myers, of New York, and Lieut. Commander T. B. M. Mason, U. S. Navy, and Mrs. Mason. Mrs. Julian James also presented a number of fine India shawls.

Excellent progress was made toward completing the installation of the exhibition series. Cases were constructed for and await the final preparation of lay figures for three new family groups and the remodeling of five old groups. Among special features added were a Filipino family group and two costumed figures representing a Chinese and a Japanese lady. The Haida house front was removed from the older Museum building, and its totem post installed at the southern end of the middle hall, the slabs being temporarily placed in storage; and models of the pueblo of Oraibi, the Zuni Mission church and a Kiva at Jemez, N. Mex., were repaired. Constant attention was paid to the protection of specimens from insect pests, whose ravages have been practically held in check, and the entire collection of the division is reported in good condition.

The curator of the division, Dr. Walter Hough, completed for publication his report on the culture of the ancient Pueblos of the Upper Gila River in Arizona and New Mexico, based on the collection procured by him on the Museum-Gates expedition of 1905. He also began an investigation preliminary to the preparation of a descriptive catalogue of the pueblo collections in the Museum, and continued his studies on heating and illumination and other subjects.

Prehistoric archeology.—A large amount of material from the shell heaps of Maine, including all the ordinary implements and utensils of the shoreland tribes of New England, in stone, bone, and clay, collected in 1896 by Frank Hamilton Cushing for the Bureau of American Ethnology, was transferred to the Museum during last year. Two important collections were received on permanent deposit from the Carnegie Institution of Washington. The first, made by Mr. J. D. McGuire, comprises, among other relics, broken and split bones of animals and birds, stone and bone implements, worked antlers, and fragments of pottery, from a cave at Cavetown, Md.; breccia containing bones and flint flakes, hammerstones, arrowheads, and fragments of pottery from Hartman's Cave, Stroudsburg, Pa.; and hammerstones, chipped blades, arrowpoints, fragments of pottery, and human bones from a mound near Downsville, Va. The other, obtained by Mr. Gerard Fowke, consists of material from an aboriginal quarry site in Carter County, Ky.

Among the gifts received were a series of typical Carib stone axes and celts from Guadeloupe Island, West Indies, presented by Mr. Frederick T. F. Dumont, American consul at Madrid, Spain; a small earthenware vessel with incised decoration from a burial mound in Franklin Parish, La., two large and exceptionally handsome earthenware vessels from the Red River region of Arkansas, and a large pottery vessel of red ware with incised decoration from a burial site in Lafayette County, Ark., donated by Mr. Clarence B. Moore, of Philadelphia; several stone axes and a tufa ring from a compound near

Phoenix, Ariz., contributed by Dr. J. Walter Fewkes, of the Bureau of American Ethnology; and an ancient pueblo black-and-white-ware vase of large size from near Holbrook, Ariz., presented by Dr. Walter Hough. A number of stone and wooden implements from an ancient copper mine on an island off the coast of Chile were obtained in exchange; and a collection of Mexican antiquities, including several statuettes of stone, a palmate sculptured stone, and a large ornamental vase of earthenware, was acquired by purchase. Many prehistoric objects, mainly from the Valley of Mexico, were lent by Maj. Harry S. Bryan.

The work of the year was in continuation of the classification, arrangement and labeling of the collections of the division, which had been thoroughly overhauled following their transfer from the Smithsonian building, the improvement of the tentative exhibits already in place, and the addition of new installations as material was made ready and cases were supplied. While much still remains to be done in the exhibition halls, the display collections were in very satisfactory condition at the close of the year.

The head curator of the department, Mr. William H. Holmes, continued the preparation of the comprehensive handbook of American archeology, which has claimed his attention for several years past. Although based primarily on the resources of this division, the collections of various other museums are also being utilized.

Historic archeology.—The scope of this division has recently been enlarged to include the prehistoric as well as historic archeology of the Old World. The most noteworthy accession was a collection of Egyptian antiquities, ranging in date from predynastic times to the twenty-sixth dynasty and including, among other objects, a series of interesting potteries, a fine slate palette and other articles of stone, presented by the Egypt Exploration Fund through Mr. S. W. Woodward, of Washington, a contributor to the Fund. A large number of Greco-Roman and Egyptian antiquities, including a rare glass vase, probably of Roman origin, some well-preserved bronze vessels, Egyptian necklaces, and bronze and stone figurines of divinities and their symbols, was received as a loan from Dr. Thomas Nelson Page. A rare and peculiarly carved vase of agalmatolite from Mongolia was contributed by Dr. Aleš Hrdlička, of the Museum staff, and 19 worked stone flakes from Palestine were donated by Mr. Herbert E. Clark, of the Jaffa Gate, Jerusalem. Among other acquisitions were a collection of neolithic stone implements from Obourg, Belgium, and several stone implements from Deir el-Bahari, Egypt, received from Dr. W. Rehlen, of Nürnberg, Germany; several casts of prehistoric stone implements from Croatia found associated with the skeleton of the "Krapina man," received from Dr. Gorjanovič-Kramberger, of the National Museum, Zagreb, Croatia,

Austria; and a number of stone implements from South Africa, presented by Mr. Albert Talken, through Mr. W. A. Haygood, American consul at Cape Province, South Africa. Thirty-one specimens, including casts of stone implements, animal bones, etc., from the caverns of Taubach, Germany, were obtained in exchange from the Städtisches Museum of Weimar, Germany.

The study and installation of the collections of stone implements and associated relics of other classes chiefly engaged the attention of Dr. I. M. Casanowicz, assistant curator of the division. An inventory of this extensive and important section of the division was commenced as a preliminary to the preparation of a card catalogue and of labels, and to a definite arrangement as soon as the necessary cases become available. In the Egyptian section of the exhibition series one special case, one Kensington case, and the Rosetta Stone were installed; and to the Biblical section were added a screen holding a relief map of Palestine, the Siloam and Temple inscriptions and 26 geographical and ethnographical photogravures of Palestine. A cast of the heroic Head of David by Michelangelo and a model of the Parthenon were also placed on exhibition.

Physical anthropology.—During an investigation in Asia, Dr. Aleš Hrdlička, curator of the division, secured 205 Mongolian and 14 Buriat skulls, with other bones, constituting a collection the counterpart of which does not exist elsewhere, and which, owing to rapidly changing conditions, it would be very difficult to duplicate. The more noteworthy gifts received were as follows: Seventeen skulls and a skeleton from mounds in Arkansas and Louisiana, from Mr. Clarence B. Moore; casts of the Mauer or Heidelberg jaw, from Prof. Dr. Otto Schoetensack, of Heidelberg University, Germany; a number of casts of skeletal remains of the ancient man from Krapina, from Prof. Dr. Gorjanović-Kramberger, of Zagreb, Croatia; a large number of photographs of Sudanese Negroes, from Dr. C. G. Seligmann, of London, England; and the mummy of a Peruvian child showing *in situ* the band by which its head was being deformed, from Dr. Carlos Morales Macedo, of Lima, Peru. Eighteen Hindu and Polynesian skulls were received in exchange from the British Museum of Natural History; and casts of 10 skulls, with lower jaws, of Siberian natives from Prof. J. Talko-Hryniewicz, of Krakow, Galicia. Mention may also be made of an extensive collection obtained by the curator on an expedition to Peru, but which did not reach Washington in time to be overhauled and accessioned before the close of the year.

The curator was absent from Washington during a considerable part of the year, conducting field investigations in several distant countries. Work upon the collections was carried on, however, as opportunity permitted, and the segregation of material was continued

having in view the presentation, in the form of exhibits, of the following subjects: Human evolution and man's antiquity; the connection of present man anatomically, on a basis of certain important characters, with his early ancestors and even earlier forms; the normal variation in all parts of the skeleton of present man; aboriginal surgery and diseases peculiar to the American aborigines; and human and animal brains.

The principal studies by Dr. Hrdlička related to early man in the Old World and to the origin of the American race. A report on the former subject is in preparation, while a preliminary paper on the latter appeared during the year in the Smithsonian Miscellaneous Collections. Unfinished investigations mentioned in the last report were also continued.

Mechanical technology.—A valuable loan collection of military weapons and other articles received from Mrs. Julian James, of Washington, includes several brass models of field and fortification cannon; a number of typical Navy cutlasses, swords, and fencing foils; a double-barrel shotgun made by Joseph Lang, of London, and used by Lieut. Commander T. B. M. Mason, U. S. Navy; a pair of dueling pistols marked "F. Rynolds, N. Y."; an exceedingly rare Colt's single-action, .26 caliber revolver made at Paterson, N. J.; a set of copper powder measures made for the Ordnance Department of the United States Army; and a sextant made by E. & G. W. Blunt, of New York, and formerly belonging to Frederic B. N. Mason, U. S. Navy. By transfer from the War Department, the Museum obtained an interesting series of weapons and other objects, which had been exhibited in a museum of historical arms maintained for some years at the Soldiers' Home in Washington. Among the articles were a Harpers Ferry musket of 1810; Hall breech-loading rifles of 1837 and 1838; United States Springfield cavalry and artillery musket-oons, caliber .69, of 1851, 1852, 1853 and 1855; Colt's single-action .45 caliber Army revolvers; a noncommissioned officer's sword; cavalry and artillery drivers' saddles, and several cavalry sabers. Mr. J. W. Daniel, of Washington, deposited a pair of horse pistols, .54 caliber, made by W. L. Evans, Valley Forge, 1831; and an Army revolver, .36 caliber, made in imitation of the Colt revolvers, and marked "C. S. A.," the belt buckle belonging with it bearing the Virginia State seal.

The Museum is again indebted to Mr. Claude L. Woolley, of Baltimore, for examples of sundials, of which two were presented by him during last year. One is of bronze, horizontal, adapted to the latitude of Aberdeen, Scotland, $57^{\circ} 10'$ north, and is marked "My time is in Thy Hand"; the other is of aluminum, horizontal, calculated for the latitude of Constantinople, Turkey, $40^{\circ} 55'$ north, has the hours designated by Arabic characters, and bears the inscription

in Arabic, "Work while the King gives the light." A 5-cylinder revolving aeroplane engine, of 30 horsepower and weighing 97 pounds, devised by Mr. Emile Berliner, was donated by the Gyro Motor Company, of Washington.

As a temporary loan, the Museum received from the Isthmian Canal Commission a working model of the Pedro Miguel locks, and a papier-maché relief map of the Gatun dam, locks and spillway of the Panama Canal. They have been exhibited in the foyer in the ground story of the new building.

The floor of the northeast court in the older Museum building, from which the collections of graphic arts had been removed, was assigned to this division and is being used for the exhibition of fire-arms and other articles. Its acquisition for this purpose has permitted the withdrawal of certain exhibits belonging to the division from the west side of the building which is required for other branches of the arts and industries. The classified arrangement and labeling of the exhibition collections made good progress. The original apparatus and models relating to electricity and many of the mechanical arts are being segregated in the east hall, and the smaller aeronautical models and the automobiles in the southeast range, but owing to the limited space a clearly distinctive separation between the different classes can not now be carried out. An important work consisted in the overhauling of the extensive storage of the division, which was not, however, completed, and the rejection of some material found to be of no further value to the Museum.

Ceramics.—There were two principal additions to the section of ceramics. One of these, a loan from Mrs. Julian James, was a collection of some size, made by the late Theodorus Bailey Myers, a noted connoisseur of New York, and comprising large Delft, polychrome and blue plates of great beauty and value, a number of fine examples of Hispano-Moresque ware, objects of blue Staffordshire ware, Liverpool pitchers with patriotic scenes, Lowestoft, Wedgwood and modern porcelain, and some glass ware. Mrs. James also deposited four panels of old blue Delft tiles with scenes. The other, for which the Museum is indebted to Miss Helen E. Coolidge, of Washington, consisted of three Lowestoft plates of superb blue and two Chinese porcelain cups generously presented, and of a rare cup and saucer of Spode ware received as a loan. Reference may also be made here to the large collection of porcelain assembled by the late Rear Admiral F. W. Dickins, U. S. Navy, and deposited by Mrs. Dickins, which, because of its pictorial significance, has been installed with the historical collections and is described in connection with them.

Graphic arts.—Most noteworthy among the donations of the year were an exhibit illustrating the Ben Day rapid shading mediums, comprising a Ben Day machine, printing screens, ink roller and pad,

pressing tools, etc., and a set of zinc plates showing the method followed in making the colored supplement of a Sunday newspaper, contributed by Ben Day, Inc., of New York; and two sets of progressive proofs of colored lithographic printing, received from the Fuchs and Lang Manufacturing Company, of New York. An interesting series of engravings, etchings, mezzotints, maps, charts, and photographs was lent by Mrs. Julian James. The section of photography received for its exhibition collection an important series of astronomical photographs made at the Mount Wilson (California) Solar Observatory under the direction of Dr. George E. Hale, and presented by the Carnegie Institution of Washington.

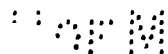
As explained in the last report, the exhibition halls on the main floor of the Smithsonian building have been assigned to the division of graphic arts, exclusive of the section of photography which is retained in the older Museum building. The installation of the collections, begun in 1912, was actively continued during last year, but, owing to the fact that extensive improvements are about to be made to the main and larger hall, the final classificatory arrangement of the materials has for the most part been deferred, though not to the extent of preventing a generally satisfactory presentation of the several subjects so far as they have been worked up. In the west hall, where the installation has been most perfected, the exhibits are practically all technical, comprising the tools, materials, and finished work elucidating the processes of reproduction along many lines, as in wood and other methods of hand engraving, etching and lithography; photo-mechanical lithography, intaglio, and relief; collography, electrotyping, shading mediums, etc. The collection illustrative of photography, which occupies the gallery of the north-west court in the older Museum building, has been so nearly completed as to insure the opening of this important exhibition early in the current year, although many gaps still exist and some time will be required to finish the labeling.

Musical instruments.—The Museum has a large and diversified collection of the musical instruments of both aboriginal and civilized peoples, which is at present exhibited under such unfavorable conditions that its true value can not be appreciated. A better installation, however, is soon to be made, which it is hoped will lead to further contributions needed to fill in the many existing gaps. The collection has for a number of years been under the custodianship of Mr. E. H. Hawley, who has not only carefully attended to its preservation, but has made extensive studies regarding the properties, distribution, names, etc., of the musical instruments of the world, which has enabled him to so classify and label the Museum material as to give it a distinctive value. There were only two accessions during the year. One consisted of a piano made by Torp and Unger,

of New York, between 1838 and 1840, and presented by the Rev. Augustus Smith, through Mr. Robert A. Smith, of Washington. The other was a combined bass drum and cymbal pedal beater, the gift of Mr. George William Reiser, of Baltimore.

History.—While the exceptional record of 1912 failed to be equaled last year, the number and value of the accessions in the division of history, and especially of permanent ones, was well above the average. It is most gratifying to announce the acquisition in perpetuity by the Nation of the flag that flew over Fort McHenry during its successful defense against the British fleet on September 13 and 14, 1814, and immortalized as "The Star-Spangled Banner" by the inspired verses of Francis Scott Key. This relic of the gallant fight, which led to the brevetting as lieutenant colonel of the commanding officer, Maj. George Armistead, U. S. Army, was preserved by him and descended to his grandson, Mr. Eben Appleton, of New York City, who consented in 1907 to its exhibition by the National Museum. During the past year this loan was made a gift to the Museum, for which patriotic action the public owes to Mr. Appleton a lasting debt of gratitude. The flag derives an additional interest from the fact that it is one of the few in existence having 15 stars and 15 stripes. Being greatly frayed and torn, it requires the support of a canvas backing, but by careful attention its preservation should be insured for all time. It has occupied a conspicuous place in the main hall of history since it was first received, but is deserving of a more appropriate setting than it has at present, one in which the entire width of the bunting can be shown.

Another important loan that was changed to a gift during the year consists of a bronze cannon with its wooden carriage, brought to America by Lafayette and used by the allied forces during the War of the American Revolution, at the close of which it was presented by Lafayette to Col. John Cropper of the Continental Army. The Museum has received it from Mrs. John Cropper, of Washington. Also dating from the same period is a dress sword and scabbard which was presented to Col. Return Jonathan Meigs of the Continental Army by act of Congress of July 25, 1777, in recognition of distinguished service during an expedition in that year to Long Island; and likewise a pair of silver knee buckles worn by Maj. Gen. Richard Montgomery, of the Continental Army, at the time of the attack on Quebec, December 31, 1775, and presented shortly before his death to his friend Col. Meigs. Both of these relics were donated by Mr. Return Jonathan Meigs, of Washington, the fourth in line of this name. The Washburn family of New England is represented by an interesting collection of memorials, including an antique pew-chair owned during the colonial period by Leah Fobes Washburn; a tile from the ruins of Evesham Abbey, England, bearing the arms of the



Washburn family; a service sword and scabbard and uniform coat used by Maj. Gen. C. C. Washburn, U. S. Volunteers, during the Civil War; a small silver goblet, part of a silver service presented to him by the members of his staff; two china vases belonging to him while governor of Wisconsin, 1872-74, and a number of other relics, all of which were received as a gift from Mrs. Albert W. Kelsey, of Philadelphia, daughter of Gen. Washburn.

The extensive and valued collection of Grant memorials received many important additions. Representing Gen. U. S. Grant are two carving sets, each of seven pieces, with silver and ivory handles, one accompanied by two dozen dinner knives similarly mounted, presented to the General, respectively, by the people of San Francisco in 1871 and the workmen of the Lamson and Goodnow Manufacturing Company, of Shelburne Falls, Mass., in 1869, which were recorded as a gift from Maj. Gen. Frederick Dent Grant, U. S. Army, through Mrs. Frederick Dent Grant. From the latter were received, also as a gift, the following memorials of her husband: The uniform worn by him when a cadet at the West Point Military Academy; a uniform coat worn during the period from 1873 to 1880, when aid on the staff of Gen. Philip Sheridan; his full-dress uniform worn in 1911 and 1912 while in command of the Eastern Division with headquarters on Governors Island, N. Y.; two United States and three headquarters flags flown by him in the Philippine Islands from 1899 to 1902, in campaigns against Filipino insurgents; a Colt's revolver and several native daggers and swords captured from the insurgents; a pair of French dueling swords with scabbards presented to Gen. Grant in 1899 by the Spanish Secretary of Justice of Porto Rico, Dr. Herminio Diaz, by whom they had been owned and used; and a number of other articles, including an ivory-handled driving whip and a fur overcoat. Mrs. Grant also presented a silver knife, fork and spoon which had been used by her husband when a child, and a set of Russian enamel spoons given him in 1892 by Senator Leland Stanford.

A white kid glove of the type worn by those who entertained Lafayette in Boston in 1825, and a United States Army chapeau given to Brevet Maj. Gen. Edward Davis Townsend, U. S. Army, by Lieut. Gen. Winfield Scott, U. S. Army, were received as a gift from Mrs. E. M. Chapman, of Washington. A piece of masonry from the ancient wall of Servius Tullius in Rome, Italy, presented to the United States Government by the National Association for the History of Italian Unity, Rome, to replace a memorial stone of the same description sent by the National Committee as a tribute to President Lincoln, after his assassination in 1865, but lost in transit, was transferred to and will be preserved in the Museum. A diploma of doctor of medicine, conferred by the University of Edinburgh, Scotland, in 1768, upon Gustavus Richard Brown of the colony of

portrait of Henry Clay, by Jean Baptiste Adolphe Gibert, was lent by Mr. Watterson Stealey, of Washington. An interesting collection of modern Chinese copper and brass coins, to the number of 135, was received as a gift from Prof. N. Gist Gee, of Soochow University, Soochow, China.

Having transferred to the custody of the National Museum its extensive collection illustrating the various phases of the postal service, in which most important and valuable is the remarkable series of postage stamps, as described in the last report, the Post Office Department has continued to transmit the new issues for all countries as they are assembled and distributed through the medium of the Postal Union. During last year there were 9 accessions, including 21,242 separate stamps, post cards and envelopes, and with this cooperation the Museum must soon attain a foremost position in the world as regards the subject of philately.

Of the loans to this division the most extensive was the remarkable collection of nearly 500 pieces of American historical china brought together by the late Rear Admiral F. W. Dickins, U. S. Navy, and deposited by Mrs. Dickins. Containing many Liverpool pitchers and pieces of Staffordshire ware, it is especially noteworthy on account of the large number of fine specimens of Presidential china, including examples dating from the administration of Washington to that of Benjamin Harrison. The series of pieces decorated with views, portraits, and inscriptions relating to important events and representing prominent personages in the history of the United States from the colonial period to the middle of the nineteenth century is particularly large and interesting. From Mrs. Henry Wells, of Washington, were received a dress sword and scabbard of the period of the American Revolution; a letter written by Thaddeus Kosciuszko when colonel in the Continental Army, dated May 24, 1779, to Ashbel Wells, Assistant Deputy Quartermaster General of the American forces; eight other letters of the same period written or received by Ashbel Wells, and two additional documents. Four early American chairs, two once owned by Maj. Gen. Philip Schuyler of the Continental Army and two by Alexander Hamilton, and two mahogany side tables which had belonged to the latter were obtained as a loan, the chairs from Dr. Allan McLane Hamilton, of New York, grandson of Alexander Hamilton, the tables from Mrs. Hamilton. A number of additions to the loan collection of the Bradford family of New England, deposited the previous year, were made by the Misses Long, of Washington, including six silver conserve spoons, a cut-glass vase, five pieces of antique jewelry, a purse of silver and ivory, a vinaigrette, and three lace veils.

Rear Admiral Robert E. Peary, U. S. Navy (retired), added to his loan collection the following further testimonials awarded him in

recognition of his achievement in reaching the North Pole, namely, a special gold medal of honor, set with a single large diamond, from the Peary Arctic Club; a gold medal from the Paris Academy of Sports; and a gold, silver and bronze trophy from the Canadian Camp of New York City. The memorial gold medal, mounted on a bronze tablet, issued by the Carnegie Hero Fund Commission in memory of the heroines and heroes of the steamship *Titanic* lost off the Banks of Newfoundland, April 15, 1912, was presented by the Commission.

To the loan collection of the National Society of the Daughters of the American Revolution was added an antique German wooden casket, decorated with a painted design and inscriptions in German and Latin, and bearing the date 1660, which had originally been used by members of the Keim family as a receptacle for jewelry, laces, and toilet articles.

The division of history requires a relatively greater proportion of exhibition space than most other branches of the Museum as its collections are more generally of a character to interest the public. It has, however, many resources which are not intended to be displayed but are kept conveniently accessible for reference and study, among these being an important series of portraits, already numbering several thousands. To permit of the introduction of certain new subjects and the enlargement of the exhibits in others, for which material is available, a third hall, the north-west range in the older Museum building, was assigned to the division during the year.

An important work begun was the classification of the extensive collection of postage stamps, stamped envelopes, and postal cards, as a preliminary to the selection of a series for exhibition, and the systematic arrangement and filing of the others. Good progress was also made toward arranging the collection of medals, heretofore in storage, which includes a fairly representative series of the historical medals of the United States, England, and France, besides a number of examples from other countries. Some attention was likewise paid to the collection of coins which, while comprising a large number of pieces, is unfortunately very deficient even as regards the coinage of the United States.

Period costumes.—The preparation of an exhibition of historical costumes, to which reference was made in the last report, was actively continued during the year though no part of the collection was made ready for installation, owing mainly to delays in securing appropriate lay figures. Following numerous experiments, plaster was finally selected as best suited for representing such parts of the figures as will be exposed, and six manikins of this pattern were approaching completion at the close of the year. The collection is affiliated with the division of history and is being restricted to coe-

tumes that have been worn at state and other important functions, principally by the ladies of the White House. The subject, which is one that has received much attention abroad, was taken up for the Museum on the initiative of Mrs. Julian James, who is giving largely of her time to the planning and direction of the work, and to the gathering of the requisite materials. She is being ably assisted by Mrs. R. R. Hoes, and has received material aid from Mrs. Hunt Slater, Mrs. Christian D. Hemmick, Miss Katharine Mimmack, Miss Clementina Furniss, Mrs. Henry White, Mrs. E. F. Andrews, Mrs. Dickinson Jewett, Miss Amaryllis Gillett, Mrs. C. Albert Hill, and Mrs. P. M. Rixey.

Important permanent contributions to the collection were made by Miss Clementina Furniss, of New York, and Mrs. S. E. Cummings and Miss L. L. Lander, of Washington, Mrs. Cummings' donation consisting of 159 articles, including costumes, laces, jewelry, fans, purses, and other accessories worn by ladies and gentlemen prior to 1825. The loans, which were numerous and valuable, were received from Mr. Edward Rutledge Pinckney and Capt. Thomas Pinckney, of Charleston, S. C.; Mrs. William M. Ellis, of Shawsville, Va.; Mrs. Mary B. Barber, of Canton, Ohio; the Misses Forsyth, of Kingston, N. Y.; Mrs. George W. Fall, of Nashville, Tenn.; Miss May S. Kennedy, of Charlestown, W. Va.; Mrs. C. C. Cooley, of Baltimore, Md.; and Mrs. John Southgate Tucker, Mrs. J. Hough Cottman, Mrs. P. M. Rixey, and Mrs. Julian James, of Washington.

Work of the preparators.—The principal work carried on was in continuation of the preparation of exhibits for the public halls, and especially the modeling, casting, painting, and installation of lay figures for the ethnological and historical costume collections, in connection with which the services of Mr. H. W. Hendley were mainly utilized. Numerous figures, modeled in clay and cast in plaster, were also made by Mr. U. S. J. Dunbar, sculptor, partly for the Museum, but chiefly for the Panama-California Exposition, and Mr. Frank Mička, sculptor, was likewise employed to prepare anthropological exhibits for the same exposition.

Exhibition collections.—With the opening up in April, 1913, of the large hall devoted to prehistoric archeology, the entire exhibition space allotted to the department of anthropology in the new building became accessible to the public. While the installations are generally well classified and displayed, they are to a large extent still tentative, and subject to additions and improvement. Much also remains to be done to complete the labeling.

Explorations.—Two trips were made during the year by the head curator of the department, Mr. William H. Holmes, for the purpose of exploring archeological localities and of obtaining data relating to collections which had been acquired by the Museum. The first

was to Georgia and the Carolinas, the second to Illinois. In Georgia certain ancient village and stone-working sites were studied and interesting material was secured; while in South Carolina the collections of the museum at Columbia were examined and a visit was made to a large Indian mound on the Congaree River, 12 miles below Columbia, where many relics of stone and earthenware were obtained from an ancient burial ground. In western North Carolina a number of the more important of the prehistoric mica mines were investigated. The old workings were found to be very numerous and extensive; some of the excavations, traces of which still remain, extended to a depth of a hundred feet, and the amount of mica extracted and carried away by the aborigines may be estimated at many hundreds of tons. By digging in the ancient pittings, Mr. Holmes secured specimens of the mica and of the stone implements employed by the natives in their mining work. In southern Illinois an examination was made of an ancient flint quarry where the aborigines obtained the material for their agricultural implements, examples of which as well as of the tools used in the flint-chipping work, together with a quantity of the refuse of manufacture, were collected for the Museum.

Under the joint auspices of the Smithsonian Institution and the Panama-California Exposition authorities, at San Diego, Cal., Dr. Aleš Hrdlička, curator of the division of physical anthropology, conducted personally three important field investigations, relating respectively to geologically ancient man in the Old World, the origin of the American race, and the anthropology and prehistoric pathology of Peru. The first involved the visiting of practically every institution in Europe where authenticated skeletal remains of ancient man are preserved. A large majority of these specimens were examined, and in several instances, especially on the island of Jersey and at Mauer, the localities where they had been found were studied, resulting in a fund of valuable information. A comprehensive account of the trip appeared in the annual report of the Smithsonian Institution for 1912. The second expedition was to Siberia and Mongolia during the summer months of 1912, and was equally successful, many important observations, supported by numerous photographs and specimens, having been secured. The principal result, as set forth in a brief report published in Volume 60 of the Smithsonian Miscellaneous Collections, under the title "Remains in eastern Asia of the race that peopled America," was to the effect that scattered over large parts of eastern Asia are remnants of native peoples, which, notwithstanding a considerable mixture with more recent ethnic elements, show many physical resemblances to the American Indian, indicating at least distant relationships. The Peruvian expedition, which continued from January until the end of April, 1913, amounted,

fact, to an extension of the field work conducted by Dr. Hrdlička in 1910. Its main objects were to trace the distribution of the principal native types in pre-Columbian times, and to determine, as far as was possible from skeletal remains, the prevalent diseases and injuries and their effect, if any, on the constitution of the people. The work was carried along the coast for 600 miles, and two trips were made into the mountains. Approximately 200 ancient cemeteries and burial caves were explored, affording opportunity for examining over 4,800 crania and a great quantity of other human bones. Important selections from these, including remarkable examples of trephining and rare pathological conditions, were forwarded to the Museum for further study. A somewhat detailed report of this expedition was submitted, and the preparation of a more extensive illustrated account was approaching conclusion at the end of the year. Under the same joint auspices, Dr. R. D. Moore, aid in the division of physical anthropology, spent the summer of 1912 on St. Lawrence Island, Alaska, observing and collecting among the Eskimo. He was successful in obtaining numerous measurements, photographs, casts and skeletal remains, as well as other material, the majority of which it was necessary to leave on the island, to be brought down the following season by one of the steamers of the Revenue Service.

DEPARTMENT OF BIOLOGY.

From only a few sources were the acquisitions received by this department during last year sufficiently diversified to relate to two or more divisions. Most noteworthy among the general collections were those contributed by Dr. W. L. Abbott, resulting from his own explorations in Kashmir, and those of Mr. H. C. Raven, conducted at Dr. Abbott's expense, in northeastern Borneo, embracing mammals, birds, reptiles, and batrachians. Several other expeditions, however, also furnished mixed collections, as described further on, the most important having been one to the Altai Mountains in Asia by Dr. Theodore Lyman. The divisions of fishes, mollusks, and marine invertebrates profited largely, as usual, by the scientific explorations of the Bureau of Fisheries, not only as to number and variety of specimens, but by the receipt of much material, including types, that had been studied and described by experts.

Mammals.—The series of mammals sent from Kashmir by Dr. Abbott and from Borneo by Mr. Raven were both of much value, that from the latter region containing a specimen of the very rare and conspicuous squirrel, *Reithrosciurus*, and two specimens of the hitherto "lost" tree shrew, *Tupaia mülleri*. Of exceptional importance was the collection of mammals, numbering 346 specimens, made by Mr. N. Hollister, assistant curator of the division, on the expedition of

Dr. Theodore Lyman to the Altai Mountains. It represents 33 species, of which 13 have been described as new by Mr. Hollister. Mr. Arthur deC. Sowerby transmitted 81 mammals from China and Mongolia, including a new species; and the Bureau of Fisheries contributed a specimen of a bottle-nosed whale taken at Beaufort, N. C., which proved to belong to a new species, described by Dr. Frederick W. True under the name *Mesoplodon mirum*. A valuable addition to the collection of anthropoid apes consisted of the skulls and skeletons of 23 gorillas and 19 chimpanzees, obtained by exchange. The Museum was also fortunate in securing the mounted skin and skeleton of an exceptionally fine male specimen of the okapi from the Welle district of the Congo. This remarkable animal, which is related to the giraffe and was discovered only about 12 years ago, is represented in but few museums.

The tanning of large and medium-sized mammal skins by contract progressed satisfactorily, and about 275 skins, mostly old specimens in danger of deterioration, were made up by the taxidermist detailed to the division. The labeling and cataloguing of the Rainey African collection were completed, and the same work with reference to the Merriam collection of North American mammals was well advanced. Over 800 large skulls and skeletons, besides a number of miscellaneous bones, were cleaned by the Museum force, and about 2,400 small skulls, by contract. All of the small skulls and skeletons are well arranged, as are also the large skulls of carnivores and primates. Cases furnished during the year made possible a temporary arrangement of the skeletons of these two orders and of the pinnipeds and rodents, but accommodations are still lacking for the skulls and skeletons of the ungulates. The alcoholic specimens are suitably provided for, and considerable progress has been made toward their systematic arrangement, that of the bats and insectivores, composing the most important part of the collection, being nearly completed.

Research work in the division related mainly to Old World mammals, though the most extensive single Museum publication of the year was a list of the North American land mammals represented in the Museum, prepared by the curator, Mr. Gerrit S. Miller, jr. A much larger and more important work by Mr. Miller was, however, issued by the British Museum of Natural History in London, being a catalogue of the mammals of western Europe, which signalized the conclusion of a task on which the curator had been engaged for a number of years, several of which were spent in Europe. Dr. S. F. Harmer, the Keeper of Zoology in the British Museum, explains in a preface that the possibility of issuing the volume grew up mainly from the studies which Mr. Miller had been conducting independently on the subject, and adds: "As Mr. Miller is on the staff of the United States National Museum the special and cordial thanks of the Trus-

tees of the British Museum are due to the authorities of the former institution for the facilities granted to him for carrying through the preparation of the Catalogue, a work which involved a furlough of two years and a half from his usual duties at Washington." It is furthermore interesting to learn from the introduction that while the British Museum has the largest collection of European land mammals extant, numbering about 5,000 specimens, the National Museum, with about 4,000 specimens, follows next, and that without the help of the latter collection a monographic study of these animals could not have been made.

Mr. N. Hollister, assistant curator, was chiefly occupied in working up the collection of mammals from the Altai Mountains, but he also brought nearly to completion an annotated review of the mammals of the Philippine Islands. Dr. M. W. Lyon, jr., formerly of the division, finished a monograph of the tree shrews and began the preparation of a review of the mammal fauna of the Borussan Islands.

Besides members of the Biological Survey of the Department of Agriculture, the collections were consulted by Prof. O. P. Hay, of Washington; Dr. H. H. Donaldson, of the Wistar Institute, Philadelphia, Pa.; Dr. J. S. Foote, of the Creighton Medical College, Omaha, Nebr.; and Mr. Childs Frick, of New York. Specimens were lent for study to Dr. Leisewitz, of Munich, Bavaria; Mr. K. Andersen, of the British Museum; Mr. W. H. Osgood, of the Field Museum of Natural History; Dr. D. G. Elliot, of New York, and others.

Birds.—Most prominent among the additions to this division was the magnificent series of over 5,000 bird skins from Abyssinia and British East Africa, collected by Dr. E. A. Mearns on the Childs Frick expedition, and deposited by Mr. Frick. Containing several generic types not previously in the Museum, this contribution splendidly supplements the earlier collections from East Africa, including those made by the Smithsonian expedition under Col. Theodore Roosevelt and by Dr. W. L. Abbott at Kilimanjaro, and places the Museum in possession of one of the best representations of the bird fauna of that part of the world. Mr. H. C. Raven transmitted 488 specimens from Borneo, and the Bureau of Fisheries 61 skins from Celebes and other islands of the Dutch East Indies, obtained during a recent cruise of the steamer *Albatross*. From this bureau were also received 108 skeletons, 137 eggs, and 2 nests from the Pribilof Islands, and Dr. L. C. Sanford, of New Haven, Conn., contributed 25 skins chiefly from Alaska, including the types of *Loxia curvirostra perna* and *Micropallas whitneyi sanfordi*. Several skins and eggs of rare birds from Samoa and Niuafo Island were presented by Mr. Mason Mitchell, American consul at Apia, among them being the skin and eggs of *Megapodius pritchardi*, which are new to the Museum; and eggs of two other rare species, namely, the ocellated turkey, *Agriocharis*

ocellata, and the Siberian spoon-billed sandpiper, *Eurynorhynchus pygmaeus*, were likewise received as gifts, the former from Mr. C. H. Jones, of San Felipe, Campeche, Mexico, the latter from Mr. L. L. Lane, of Seattle, Wash.

The rearrangement of the reserve series of skins was continued and completed for 21½ quarter-unit cases. Some 300 mounted birds from the old exhibition collection were made over into skins, and the original labels of several hundred mounted specimens were removed from the stands to which they had been glued, and filed away in numerical order for reference. The important work of posting the old catalogues showing the distribution of specimens during the earlier years of the Museum and the search for type specimens were also continued, the latter with some success, a few types being discovered. The Frick African collection was catalogued. The skins received during the year were assigned to their appropriate places in the reserve series, with the exception of the Frick and Abbott collections which are being kept intact pending their study. The eggs were also catalogued but not systematically arranged.

Mr. Robert Ridgway, curator of the division, completed part 6 of his great work on the Birds of North and Middle America, covering the families Picidæ (woodpeckers), Capitonidæ (barbets), Rhamphastidæ (toucans), Galbulidæ (jacamars), Bucconidæ (puffbirds), Alcedinidæ (kingfishers), Todidæ (todies), Momotidæ (motmots), Caprimulgidæ (goatsuckers), Nyctibiidæ (ibijaus), Aluconidæ (barn owls), Strigidæ (owls), and Cuculidæ (cuckoos). The manuscript for the Psittacidæ (parrots), to be included in part 7, was also nearly finished. It is gratifying to make mention in this connection of the signal honor recently conferred on Mr. Ridgway, who has been an active member of the scientific staff of the Museum since 1874, in the awarding to him of the Walker grand honorary prize, given by the Boston Society of Natural History once in five years, in acknowledgment of his investigations in ornithology, and particularly for his work on the Birds of North and Middle America. This prize was founded by the late William Johnson Walker, a benefactor of the Society, and is granted in recognition of important investigations in natural history, published and made known in the United States.

Dr. C. W. Richmond, assistant curator, during such time as could be spared from routine work, studied the Frick collection of African birds with reference to their generic determination, and also investigated and reported on a large number of generic names of birds for the International Commission of Zoological Nomenclature. Mr. J. H. Riley, aid, assisted Mr. Ridgway in the preparation of the manuscript of the Birds of North and Middle America, compiling references and measuring specimens. Dr. E. A. Mearns, U. S. Army (retired), associate in zoology, continued his studies of East African

birds, chiefly those collected by himself on the Smithsonian and Frick expeditions. Mr. A. C. Bent, of Taunton, Mass., spent some time at the Museum in examining various North American birds, more particularly the crossbills.

Members of the staff of the Biological Survey of the Department of Agriculture made constant use of the collection, especially Mr. H. C. Oberholser, who also determined for the Museum several accessions that had recently been received. A large number of ornithologists not connected with the Government likewise visited the division, some of them spending several days in the examination of specimens and books in connection with their investigations. Among these may be mentioned Dr. Thomas Barbour, of the Museum of Comparative Zoology; Mr. F. M. Chapman, of the American Museum of Natural History; Mr. C. B. Cory and Prof. S. E. Meek, of the Field Museum of Natural History; Mr. Witmer Stone, of the Academy of Natural Sciences of Philadelphia; Mr. W. E. Clyde Todd, of the Carnegie Museum; Mr. Childs Frick, of New York; Mr. C. J. Maynard, of West Newton, Mass.; Dr. L. C. Sanford, of New Haven, Conn.; Mr. H. H. Bailey, of Newport News, Va.; Mr. Lacy I. Moffett, of Kiangyin, China; and Mr. Charles T. Ramsden, of Guantanamo, Cuba. The collection of birds' eggs was consulted by Mr. Edward Arnold, of Battle Creek, Mich.; Mr. E. J. Court, of Washington; Mr. A. M. Ingersoll, of San Diego, Cal.; and Mr. Geo. H. Stuart, of Philadelphia, Pa. Dr. R. W. Shufeldt, of Washington, examined a number of skeletons. Specimens were lent for study to several museums and other institutions, as follows: The Academy of Natural Sciences of Philadelphia, the American Museum of Natural History, the Boston Society of Natural History, the California Academy of Sciences, the Carnegie Museum, the Field Museum of Natural History, the Museum of Comparative Zoology, the Museum of Vertebrate Zoology of the University of California, and the British Museum of Natural History.

Reptiles and batrachians.—Besides the reptiles contained in the collection received from Mr. Raven, a considerable number of specimens from Borneo were presented by Mr. D. D. Streeter, who, as a temporary collaborator of the Museum, visited that island during the year. Mr. Arthur deC. Sowerby transmitted material from China; Dr. J. C. Thompson, U. S. Navy, from California; and Dr. J. N. Rose, from the West Indies. Several specimens of the recently described *Neoseps reynoldsi* from Florida were obtained by Mr. N. R. Wood, of the Museum staff; and the type specimens of two new salamanders, described by Mr. C. S. Brimley, of Raleigh, N. C., as *Plethodon metcalfe* and *Spelerpes ruber schencki*, were received from the latter as a gift.

The collections of the division received the care and attention necessary to their preservation, and considerable progress was made in the transfer of specimens to glass-stoppered jars which are better

adapted to their keeping than the older pattern. The head curator of the department, Dr. Leonhard Stejneger, who also retains charge of this division, continued, as time permitted, his researches on Philippine herpetology, and completed his report on the reptiles and batrachians collected by the Yale Peruvian expedition of 1911. The division was visited for the examination of material by Dr. Thomas Barbour and Dr. J. S. Foote; and specimens were lent for study to Dr. Alex. G. Ruthven, head curator of the Museum of the University of Michigan; Dr. J. C. Thompson, U. S. Navy, attached to the steamer *Albatross*; Dr. Charles A. Kofoid, of the University of California; and Dr. Barbour.

Fishes.—While the number of specimens received by this division was much below the average, the number of types acquired was exceptionally large, not less than 110, besides numerous paratypes, having been contained in a single collection from the Bureau of Fisheries, which also deposited the type and paratype of *Hadropterus sellaris*, and the type and 11 other specimens of *Pseudopleuronectes dignabilis*. Leland Stanford Junior University presented the type specimen of *Atherinops oregonia* and paratypes of six new species of Japanese fishes; while Dr. David Starr Jordan donated the type of *Gnathypops ionis* from Japan, and was instrumental in obtaining the type of *Anguilla manabei*, also from Japan, as a gift to the Museum from Prof. Yoshiro Manabe. The type of *Pontinus microlepis* and three specimens of the rare *Plectrypops retrospinis*, new to the collection, were contributed by Dr. Tarleton H. Bean, of the Conservation Commission of New York. A number of desirable specimens from Cape Lookout, N. C., were received from Mr. Russell J. Coles, of Danville, Va., and others were acquired through exchange from the Field Museum of Natural History, and the Australian Museum at Sydney.

The very extensive collections of the division are reported to be in good condition, but their increase in recent years has more than taxed the energies of the few persons attached to the division, and a general revision is now called for and should soon be undertaken. Such a work would be expected to result in a considerable reduction in the bulk of material, and to release a large number of specimens to be used for exchanges, and for distribution to schools and colleges.

Though mainly occupied with routine work, the assistant curator of the division, Mr. Barton A. Bean, continued his investigation of the fishes of the District of Columbia and of Florida, and the aid, Mr. A. C. Weed, his study of the pike family (*Esocidae*). Dr. Hugh M. Smith, U. S. Commissioner of Fisheries, and Mr. Lewis Radcliffe, of the Bureau of Fisheries, made constant use of the collections in connection with their researches on the fishes of the Philippine Islands, as did also Mr. S. F. Hildebrand, of the same bureau, and Dr. S. E. Meek, of the Field

Museum of Natural History, in conjunction with their investigation of the fishes of Panama. Prof. T. D. A. Cockerell, of the University of Colorado, was present during a short time, making a study of the scales of fishes, and specimens were lent to the American Museum of Natural History and Leland Stanford Junior University.

Insects.—Most noteworthy among the accessions to this division was a collection of about 15,000 forest insects, accompanied by examples of their work and by copious notes, which was deposited by the West Virginia Agricultural Experiment Station in order that it might be accessible for the study of certain economic problems by the Government. Some 3,600 insects, mostly from Great Britain and North America, were presented by Mr. J. R. Malloch, of Washington, and over 2,500 specimens were transferred by the U. S. Bureau of Entomology. Eighty named bees, new to the collection and including paratypes of 12 species, were donated by the Department of Entomology of the University of Nebraska; and 218 bees of the family Meliponidæ, also named and including 90 cotypes, were purchased from Dr. H. Friese, of Schwerin, Germany. As a nucleus for the series of insects in the faunal exhibit of the District of Columbia a collection of local beetles, numbering about 10,000 specimens, remarkable for its completeness and excellence of preparation, was acquired by purchase from Mrs. C. E. Burden, of Falls Church, Va.

While the collections of the division have been kept in good condition as regards preservation, it has not been possible to make the progress desired in transferring the specimens from the old style of drawers to those of the lately adopted standard pattern, specially designed for their better protection from pests and dust, owing to the lack of means for employing a sufficient number of skilled preparators to properly expedite the work. The transferring during the year was mainly restricted to the orders Odonata, Coleoptera, and Hymenoptera.

The curator of the division, Dr. L. O. Howard, collaborating with two of his assistants, Dr. Harrison G. Dyar and Mr. Frederick Knab, completed for the Carnegie Institution of Washington the monumental work on the mosquitoes of North and Central America and the West Indies, on which they have been engaged for some time. The associate curator, Mr. J. C. Crawford, continued his studies of the Hymenoptera, and described a large number of new genera and species. Mr. J. R. Malloch finished the preparation of an account of the dipterous family Phoridae, and Mr. A. A. Girault, a monograph of the Signiphorinæ, a subfamily of Hymenoptera. Many smaller detached studies by the custodians of the various branches of the collections are indicated by their titles in the bibliography at the end of this report. Among the students who visited the division for the purpose of examining material in furtherance of their researches were Mr. M. D.

Leonard, of Cornell University; Dr. Frank E. Lutz, of the American Museum of Natural History; Dr. W. T. M. Forbes, of Worcester, Mass.; Mr. J. R. de la Torre Bueno, of White Plains, N. Y.; Mr. G. P. Engelhardt, of the Children's Museum, Brooklyn; and Mr. H. G. Barber, of Roselle Park, N. J. Specimens were lent to specialists as follows: Hemiptera and Coleoptera to Mr. Fred Muir, of the Hawaiian Sugar Planters' Experiment Station, Honolulu, H. I.; Coleoptera to Mr. George C. Champion, of London, England, and Mr. Robert D. Glasgow, of Urbana, Ill.; Hemiptera to Mr. J. R. de la Torre Bueno; Hymenoptera to Mr. P. H. Timberlake, of the Bureau of Entomology, and Mr. H. L. Viereck, of Philadelphia; Diptera to Dr. O. Kröber, of the Naturhistorisches Museum, Hamburg, Germany, Mr. C. W. Johnson, of the Boston Society of Natural History, Dr. E. P. Felt, of Albany, N. Y., Mr. H. E. Smith, of Wellington, Kans., and Prof. J. M. Aldrich, of the University of Idaho; Odonata to Dr. Philip P. Calvert, of the University of Pennsylvania, and Euplexoptera to Dr. Malcolm Burr, of Dover, England.

Mollusks.—The cotypes of 12 species of Australian mollusks described by him were presented by Dr. J. C. Verco, of Adelaide, South Australia, and the type specimens of several new species of marine shells as well as other specimens were received as a gift from the late C. W. Gripp, of San Diego, Cal., and from his estate after his death. Other noteworthy contributions consisted of recent and fossil shells from Venezuela, received from Dr. Ralph Arnold, of Los Angeles, Cal.; land shells from the Bahama Islands and the Dutch East Indies, and marine shells from Panama, received from Mr. John B. Henderson, of Washington; land, fresh-water and marine shells from Mexico and Texas, received from Mr. Charles R. Orcutt, of San Diego, Cal.; and land and fresh-water shells from Lake Winnipeg and vicinity, received from Mrs. W. W. Hipsley, of Manitoba. Many fine examples of Cypraea from Honolulu were obtained from Mr. I. B. Hardy, of Santa Barbara, Cal., in exchange.

The reserve collections are reported as accessible and in good order. A beginning has been made toward revising the arrangement of the west American coast fauna, and for several of the larger genera this work has been finished. The extensive additions made to the marine collection from South Africa by Lieut. Col. W. H. Turton have been mainly worked up and will result in an exceptionally fine representation from that region. Over 11,500 lots of specimens were registered. For the exhibition collections the synoptical and Acadian faunal series were completed and have been installed, that for the District of Columbia has been made ready, and the series illustrating the Virginian and Floridian regions are well under way.

The curator of the division, Dr. William H. Dall, commenced work on a revision of the marine mollusks of the North Pacific coast, beginning with the Nuculacea and Buccinidæ, while the assistant curator, Dr. Paul Bartsch, continued his studies of the mollusks of South Africa and the Philippine Islands, in which good progress was made. Mr. John B. Henderson spent much time at the division pursuing his investigations of the Antillean mollusk fauna, and the collections were consulted by the Hon. T. H. Aldrich, of Birmingham, Ala.; Miss Julia Gardner, of Johns Hopkins University; and Mr. L. S. Frierson, of Frierson, La.

Marine invertebrates.—The principal accessions received by this division came, as usual, from the Bureau of Fisheries, and consisted chiefly of material that had been worked up and reported upon by specialists. Of schizopod crustaceans collected on the *Albatross* cruises of 1899–1900 and 1904–1905 in the Pacific Ocean under the direction of Alexander Agassiz, and described by Dr. H. J. Hansen in the Memoirs of the Museum of Comparative Zoology, there were about 2,500 specimens, representing 63 species, of which 8 were new to science and 2 had been made the types of new genera. Of echinoids or sea urchins from several Pacific explorations of the *Albatross*, described by Dr. Hubert Lyman Clark in the same Memoirs, there were some 1,300 specimens, representing 52 species of which 14 were new. Of echinoderms other than crinoids obtained during a cruise of the steamer *Albatross* to the west coast of Mexico in 1911 under the direction of Dr. C. H. Townsend, and also described by Dr. H. L. Clark in a report not yet published, there were 986 specimens, representing 104 species, of which 7 were new. Of simple ascidians from the collections made by the Fish Commission on the Atlantic coast of the United States between 1871 and 1887, described by Dr. W. G. Van Name in the Proceedings of the Boston Society of Natural History, there were about 250 specimens, representing 34 species, of which 8 were new. About 900 samples of plankton and 348 microscopic slides of foraminifera were also received from the Bureau of Fisheries. Mr. Harry K. Haring, of Washington, presented 139 species of rotifera, of which 5 were new, mounted on microscopic slides, this important contribution more than doubling the representation of this order of minute worms in the Museum collection. From the Muséum d'Histoire Naturelle at Paris, France, 9 species of shrimps of the family Atyidæ new to the Museum and including cotypes of 3 new species described by Prof. E. L. Bouvier, were obtained by exchange.

The work of improving the condition of the reserve collections of the division and making them more accessible for reference was satisfactorily continued, the alcoholic specimens of echinoids, asteroids, holothurians, alcyonarians and actinians being overhauled, the nomen-

clature revised, fresh labels attached to the outside of the jars and a systematic arrangement effected. At the same time the card catalogue of these groups was brought down to date. The cataloguing of current accessions was promptly attended to, and that of several large collections which had fallen in arrears was made up. A number of sets of duplicate specimens was prepared for distribution to schools and colleges, and much time was spent in selecting material for the exhibition series.

Miss Mary J. Rathbun, assistant curator, finished the preparation of a report on the stalk-eyed crustaceans of the Dutch West Indies, based on a collection made by Dr. J. Boeke in 1905, which is to be published by the Dutch Government in a series dealing with the resources of those islands. She also identified most of the Japanese crabs sent for that purpose by the University of Tokyo, and concluded the working up of the large collection of Philippine crabs of the families Ocypodidæ and Grapsidæ, in the same connection studying and determining all of the specimens belonging to the same families contained in the general Museum collection. A report on the Philippine specimens is nearly ready for publication. Mr. Austin H. Clark, assistant curator, conducted investigations upon a number of collections of recent crinoids, mostly received from abroad, some of which were finished, while others are still in progress, and he also completed revisions of a number of families and genera of crinoids. In cooperation with Mr. Frank Springer, he prepared a treatise on crinoids for a new edition of Zittel's Paleontology, and a part of the section on the Holothuroidea for the same publication was furnished by him. Dr. Harriet Richardson, collaborator, continued her studies on isopods and identified a number of specimens from various sources, including small collections obtained by the Bureau of Fisheries steamer *Albatross* on the west coast of Mexico in 1911, and by the French Antarctic Expedition, the latter collection belonging to the Museum of Natural History in Paris.

The resources of this division are so great and so diversified that it would be quite impossible to depend upon its small staff for all of the research work necessary for the entire classification of the collections placed in its custody. For this reason it has long been the policy to seek the help of zoologists specializing in the various groups of marine and other aquatic invertebrates wherever they may be located, and it has also been the good fortune of the Museum to receive such assistance freely and almost wholly without other obligation than a right to share in the division of the duplicate specimens yielded by each collection as it is studied. A full statement of this cooperative work would involve the names of most of the prominent experts of the world in the subjects covered by the

division. During last year these volunteer collaborators represented 11 different States of this country, besides Great Britain, France, Germany, and Denmark. Reports for publication were received from several of these, as follows: Dr. R. Koehler, of Lyon, France, on a large collection of ophiurans chiefly from the West Indies; Dr. H. B. Bigelow, of the Museum of Comparative Zoology, on the Medusæ and Siphonophoræ collected by the steamer *Albatross* in the northwestern Pacific Ocean in 1906; Dr. Walter Faxon, of the same Museum, on the crayfishes received by the Museum during the past 15 years or since his last report upon the subject; Dr. William E. Ritter, of the Scripps Institution for Biological Research, at La Jolla, Cal., on the simple ascidians from the northeastern Pacific Ocean; Dr. Joseph A. Cushman, of the Boston Society of Natural History, the third part, covering the family Lagenidæ, of his monograph of the foraminifera of the north Pacific Ocean; Dr. C. Dwight Marsh, of the Department of Agriculture, on the fresh-water copepods of Panama, based on material mainly collected by himself; and Dr. A. S. Pearse, of the University of Wisconsin, on a collection of amphipods from the Pribilof Islands, Alaska.

The following important investigations, previously begun, were in progress, namely, on the starfishes of the north Pacific Ocean, by Dr. Walter K. Fisher, of Leland Stanford Junior University; on parasitic copepods, by Dr. Charles B. Wilson, of the State Normal School at Westfield, Mass.; on the sessile Cirripedia, by Dr. H. A. Pilsbry, of the Academy of Natural Sciences of Philadelphia; on the family Crangonidæ of shrimps, by Dr. H. Coutière, of the École Supérieure de Pharmacie, Paris, France; on the order Euphausiacea of crustaceans, by Dr. H. J. Hansen, of the Zoological Museum, Copenhagen, Denmark; on the order Mysidacea of crustaceans, by Dr. W. M. Tattersall, of the Manchester Museum, Manchester, England; on the bryozoans of the Atlantic coast of North America, by Dr. R. C. Osburn, of Barnard College, New York City; and on the rotifers of the District of Columbia, by Mr. Harry K. Harring, of the Bureau of Standards. Other extended researches were taken up during the year by Prof. Frank Smith, of the University of Illinois, on the oligochete annelids; by Mr. R. Southern, of Dublin, Ireland, on the family Cirratulidæ of annelids; by Dr. J. W. Spengel, of Giessen, Germany, on the genus *Sipunculus* of worms; and by Prof. Maynard M. Metcalf, of Oberlin College, on the collection of *Salpa* and *Pyrosoma*. Dr. H. B. Bigelow began the examination of the many samples of plankton collected in the Gulf of Maine during the summer of 1912 by the Bureau of Fisheries schooner *Grampus*.

Acknowledgments are also due to the following persons for the identification of specimens sent to them from time to time belonging in the groups named respectively after each, namely, Dr. H. V.

Wilson, of the University of North Carolina, marine sponges; Dr. N. Annandale, of the Indian Museum at Calcutta, fresh-water sponges; Dr. Alice Robertson, of Wellesley College, Pacific coast bryozoans; Prof. C. C. Nutting, of the University of Iowa, hydroids and alcyonarians; Prof. H. B. Torrey, of Reed College, Portland, Oreg., actinians; Dr. H. L. Clark, of the Museum of Comparative Zoology, echinoderms; Prof. J. Percy Moore, of the University of Pennsylvania, annelids and leeches; Dr. E. L. Michael, of San Diego, Cal., chætognath annelids; Dr. W. R. Coe, of Yale University, nemerteans; Miss A. L. Weckel, of Oak Park, Ill., fresh-water amphipods; and Dr. A. G. Huntsman, of the University of Toronto, compound ascidians. The loans made to assist in investigations other than for the Museum comprised specimens of bryozoans, sent to Mr. H. T. White, of Sudbury, Canada; Philippine sea urchins of the family Cidaridæ, sent to Dr. Th. Mortensen, of the Zoological Museum, Copenhagen, Denmark; shrimps of the family Atyidæ, sent to Prof. E. L. Bouvier, of the Muséum d'Histoire Naturelle, Paris, France; crayfishes, sent to Prof. H. Garman, of the State University of Kentucky; and specimens of the family Pontoniidæ of crustaceans, sent to Dr. L. A. Borradaile, of Selwyn College, Cambridge, England.

Plants.—The total number of specimens acquired by the division of plants was approximately 140,000, of which about 80,000 were comprised in the collection of grasses, forming part of the National Herbarium, which had long been cared for and received its main growth in the Department of Agriculture, and which during the year was transferred to the custody of the Museum. Other grasses to the number of about 12,800 were obtained by purchase. They composed the private collection of Prof. A. S. Hitchcock, containing, besides specimens gathered by Prof. Hitchcock and Mrs. Agnes Chase, a large amount of material formerly belonging to Prof. F. L. Scribner, and the types of over 200 species first described by him. Through these additions the grass collection now brought together in the division of plants becomes the largest and most comprehensive one in this country.

Another noteworthy accession was the herbarium of Prof. E. O. Wootton, consisting of about 10,000 specimens mostly from New Mexico, to which a particular value attaches because of the fact that much of the material, obtained in many and often remote parts of the State, was not gathered in duplicate, on which account the collection furnishes the only means of substantiating the records of a large number of species. A set of 621 specimens, of which about one-third are cotypes, from the Schomburgk collection of British Guiana plants, received in exchange from the British Museum of Natural History, forms an especially desirable acquisition, in view of the active botanical investigations recently conducted in Panama,

as the National Herbarium is very deficient in material from South America. Among other important additions were about 7,000 plants from the West Indies, collected by Dr. J. N. Rose and assistants; and nearly 3,000 specimens, chiefly from the same region, obtained in exchange from the New York Botanical Garden.

An exceptionally notable contribution was the well-known collection of diatoms assembled by the late Prof. C. Henry Kain, of Philadelphia, Pa., said to be the largest and most diversified in this country and one of the finest in the world, which was received as a gift from Mrs. Kain.

Reference should also be made to the generous gift by Miss Eleanor Lewis, of Yellow Springs, Ohio, of over 500 flower studies in water color, composing all that had been kept together of the large and well-known series painted by her aunt, the late Miss Adelia Gates during extensive travels in this country, Europe, Palestine, and the northern part of Africa. Additions to the collection have been promised by several friends of Miss Gates, among whom a considerable number of the paintings were distributed.

The number of mounted plants added to the herbarium was approximately 111,500, of which the greater part, consisting of the grasses in the two large collections, were received in that condition. The number of specimens mounted in regular course was about 18,000, including some material in arrears, leaving at the end of the year less than 5,000 specimens to be so prepared. Owing to the unusual extent of the accessions and to a considerable accumulation of material, the work of distributing specimens to their appropriate places in the herbarium involved more than the customary amount of labor. The segregating of types and of collections representing type material was continued with good progress, and a large number of duplicates were separated and prepared for distribution.

Mr. Frederick V. Coville, curator of the division, continued his studies on the Vacciniaceae. Mr. W. R. Maxon, assistant curator, prepared two papers on tropical American ferns, identified the Panama specimens of several genera of the same group, and gave some time to the preparation of copy for the fern portion of the North American Flora. Mr. P. C. Standley, assistant curator, determined the species of certain families of plants in collections from Panama and, mainly in this connection, monographed several small genera of tropical American forms. In collaboration with Prof. E. O. Wooton, he also prepared a paper describing over 200 new species from New Mexico, consisting of excerpts from the manuscript of the flora of New Mexico mentioned in the last report. This manuscript was also under revision by Mr. Standley to adapt it for publication in the Contributions from the National Herbarium. Mr. E. S. Steele, in addition to his editorial work, pursued his study of the genus *Laciniaria*.

Dr. J. N. Rose, formerly associate curator of the division, but now on furlough and serving as a research associate of the Carnegie Institution of Washington, continued, at the Museum, his investigation of the family Cactaceae, and in conjunction with Mr. Standley published a revision of the North American species of *Meibomia*, section *Nephromeria*. Dr. E. L. Greene, associate in botany, reported progress in the preparation of part 2 of "Botanical Landmarks," and published numerous short papers descriptive of new species mostly from the western United States. Capt. John Donnell Smith, also associate in botany, continued his studies of previous years on the flora of Central America, and brought together partial results in two papers published during the year.

Among persons not connected with the Government who made use of the resources of the division may be mentioned Dr. N. L. Britton, director of the New York Botanical Garden, who is engaged jointly with Dr. Rose in the investigation of the Cactaceae; Dr. D. T. MacDougal, in charge of the department of botanical research of the Carnegie Institution of Washington; Prof. William Trelease, of the University of Illinois, who was studying *Phoradendron* and the oaks of Mexico and Central America; and Dr. P. A. Rydberg, of the New York Botanical Garden, who had in preparation a flora of the Rocky Mountain region and an article on the family Rosaceae for the North American Flora.

The number of plants lent to other institutions and to specialists was larger than in any year except the previous one, the principal sendings having been as follows: To the Royal Botanical Garden and Museum, Berlin, Germany, specimens of Acanthaceae, Araceae, Euphorbiaceae and Orchidaceae, mainly from Panama, for determination for the benefit of the National Museum; and specimens of *Zamia* and *Saxifragaceae* for use in the preparation of matter for the "Pflanzenreich." To Prof. L. Radlkofer, of the Royal Botanical Museum, Munich, Germany, specimens of Sapindaceae chiefly from Panama, and to Dr. Georg Bitter, of Bremen, Germany, specimens of *Solanum*, for naming in the interest of the National Museum. To the Royal Botanic Gardens, Kew, England, specimens of the genus *Marah*. To the University of Pennsylvania, specimens of *Gerardia*, *Dasystema* and related genera, for the use of Mr. F. W. Pennell, who is preparing an elaborate revision of this group. To the Gray Herbarium of Harvard University, specimens of several groups for study by Dr. B. L. Robinson, Prof. M. L. Fernald, Mr. Sidney F. Blake, and Mr. F. T. Hubbard. To the New York Botanical Garden, specimens of *Vacciniaceae* and *Rosaceae* for use in preparing articles for the North American Flora, and specimens of Rocky Mountain plants for study by Dr. P. A. Rydberg. To Prof. C. O. Rosendahl, of the University

of Minnesota, specimens of the genus *Mitella*, and to Mr. Marcus E. Jones, of Salt Lake City, Utah, specimens of *Astragalus*.

Explorations.—The expedition of Mr. Childs Frick, of New York, to eastern Africa, of which Dr. E. A. Mearns, U. S. Army (retired), an associate of the Museum, was a member, and which left London in January, 1912, as described in the last report, terminated in September following. Starting from French Somaliland, the party proceeded through Abyssinia to British East Africa by way of Lake Stefanie and Lake Rudolf, finally reaching Mombasa. Forming part of the extensive collections of natural history obtained was a fine series of about 5,000 birds, the subject of Dr. Mearns' particular attention, which Mr. Frick has generously placed in the Museum.

The hunting trip made by Dr. Theodore Lyman, of Harvard University, to the region of the Altai Mountains in Asia, on which he was accompanied by Mr. N. Hollister of the Museum staff, met with very gratifying results. The party was absent from May until September, 1912. Its course was over the Trans-Siberian Railroad to the Obi River, and up the latter by boat and later by tarantas and pack train to the frontier range between Siberia and Mongolia. Collecting was mainly done on the Siberia side and the mammals and birds obtained, about 650 in number, have, through the courtesy of Dr. Lyman, been divided between the Museum of Comparative Zoology and the National Museum.

Reference was made in the last report to the fund generously provided by Dr. W. L. Abbott for the purpose of sending a naturalist to Borneo to continue the important natural history exploration of that island which he had personally carried on for a number of years, greatly to the advancement of the collections of the Museum. At the close of the year, Mr. H. C. Raven, who was dispatched on this mission, had been absent about 16 months. While no formal report has been received from him, it is known that he has followed along the lines planned by Dr. Abbott, which were to explore in as much detail as possible the coast rivers and islands of the northern half of the south and east division of Dutch Borneo, which Dr. Abbott had not been able to visit, paying particular attention to the mammals besides collecting any ethnological objects that might be of interest. The material which Mr. Raven has already transmitted testifies that his work is proceeding successfully. Dr. Abbott, who returned to Kashmir early in the spring of 1912, interested himself in trapping and studying the habits of the smaller mammals of that country, of which he presented the Museum with a large number of specimens, mostly from Baltistan, accompanied by much interesting information. Mr. Arthur deC. Sowerby continued his collecting work in China and forwarded during the year a number of mammals and reptiles.

In 1904 Mr. Gerrit S. Miller, jr., and Dr. Leonhard Stejneger conducted field work in the western Alps of Europe, with the object of comparing the vertical distribution of life in that region with the life zones of North America. Certain of the problems connected with this study were left undecided chiefly on account of present-day conditions believed to be of local significance only. During the spring of 1913, under a grant from the Smithsonian Institution, Dr. Stejneger renewed these observations in the eastern Alps, where the conditions were supposed to be more favorable. A month, beginning April 20, was given to this work, the time being mainly devoted to an investigation of the territory between the valley of the River Etsch or Adige, as far north and west as Schlanders in Austrian Tirol, and the valley of the River Brenta in Italy, especially the Val Sugana and the plateau of the Sette Comuni, the Etsch valley in Tirol below Trient, including Lake Garda, and between Bozen and Schlanders. Dr. Stejneger was able to trace in some detail the limits of the lower and upper Austral life zones, and corroborated the previous observations in Switzerland relative to the distribution of the coniferous trees. Inclement and rainy weather interfered with the work to some extent and frustrated frequent attempts to make extensive collections for the Museum.

The three young naturalists who started into the field the previous year as temporary collaborators of the Museum all met with gratifying results in their collecting work. Mr. D. D. Streeter, of Brooklyn, N. Y., who was absent from the middle of April until into December, 1912, passed from Sarawak into Dutch Borneo by ascending the Rejang River and crossing the mountains on the dividing line to the Kajan River. He then ascended to the head of this river and crossed another range to the headwaters of the Mahakam River, which he descended to the Strait of Macassar. He secured a small but interesting collection of mammals, reptiles, and batrachians, including two rhinoceros skulls. Mr. George Mixter, of Boston, Mass., spent the summer of 1912 in the vicinity of Lake Baikal, Siberia, the main object of his trip being to obtain specimens of the native bear and of the seal peculiar to Lake Baikal. Besides good examples of both of these he also collected some small mammals, and specimens of sponges and crustaceans from the lake. Mr. Copley Amory, jr., of Cambridge, Mass., joined the Coast and Geodetic Survey party, under Mr. Thomas Riggs, jr., which was engaged in surveying on the Alaska-Canadian boundary during the summer of 1912. Reaching New Rampart House on July 11, with a trapper and three dogs, he packed over the mountains for 60 miles to the base of supplies on the Old Crow. After a trip north to Joe Creek, a tributary of the Firth, lasting two weeks, he proceeded with Mr. Riggs some 40 miles to the southwest of Old Crow in the caribou country.

Finally, in a canvas boat, built for the purpose, he made his way down to the mouth of the river, a distance of about 300 miles. Mr. Amory obtained about 60 mammal skins, including a series of caribou, besides many bones of fossil mammals of much interest, which are referred to elsewhere.

Mr. A. C. Bent, of Taunton, Mass., spent the months of June, July and August, 1912, in Newfoundland and Labrador for the purpose of gathering further material and information for the work on the life histories of North American birds which he has volunteered to continue. He visited a wide range of territory, in which he had excellent opportunities for making observations, especially on the breeding places and habits of the birds of the region. The trip proved very successful, important data and a number of interesting photographs being secured. Some specimens of birds were also collected.

Dr. Paul Bartsch, assistant curator of mollusks, was enabled to make a second trip to the Florida Keys and the Dry Tortugas, through the courtesy of Dr. Alfred G. Mayer, director of the Marine Biological Laboratory of the Carnegie Institution of Washington, and as a guest of that institution on board the steamer *Anton Dohrn*. He was absent about three weeks, from April 20, 1913, during which he visited the several places where living specimens of the two races of the genus *Cerion* of land shells from the Bahama Islands were planted the previous year with the object of determining the effect of change of environment. Notes were made on the condition of the specimens, and collections of various groups of marine invertebrates were obtained for the Museum. Dr. T. Wayland Vaughan, of the Geological Survey and custodian of madreporarian corals in the Museum, also spent a short time at the Carnegie laboratory on the Dry Tortugas, studying the growth of stony corals and incidentally collecting specimens of coral for the Museum. Mr. John B. Henderson, a regent of the Smithsonian Institution, conducted further explorations among the Florida Keys with his yacht *Eolis* during the spring of 1913, and from the collections made he generously contributed an excellent series of marine invertebrates accompanied by color notes on some of the more striking forms. Dr. J. W. Fewkes, of the Bureau of American Ethnology, during archeological explorations in the West Indies, obtained for the Museum a small collection of sponges at Grand Cayman Island, a dependency under Jamaica.

Through the courtesy of Dr. J. N. Rose and Dr. N. L. Britton, Mr. Paul G. Russell, of the division of plants, was permitted to accompany a joint expedition of the Carnegie Institution of Washington and the New York Botanical Garden to the West Indies for the purpose of obtaining plants for the National Museum. The special object of the trip was the investigation of the cactus flora, but about 7,000 specimens of other groups were also secured, chiefly in the Lesser

Antilles and Santo Domingo, besides a number of reptiles and batrachians. Mr. P. C. Standley, assistant curator of plants, collected while on leave in Missouri about 1,000 specimens of plants, which he presented to the Museum.

Collecting work in the vicinity of Washington, mainly for fishes, though some invertebrates were also obtained, was carried on from time to time by members of the staff, without expense to the Museum. It was mainly confined to the Potomac River and its tributaries from Plummer's Island to Mattawoman Creek, to branches of the Patuxent River, and to Chesapeake Bay several miles south of Chesapeake Beach. Those who participated in these trips were Mr. Barton A. Bean, Mr. William Palmer, Mr. A. C. Weed, and Mr. Ernest B. Marshall.

Exhibition collections.—The preparators of the department were chiefly occupied during the year in mounting specimens for and arranging the exhibition collections. The American mammals, the marine invertebrates, and certain osteological material, which had remained in the older buildings, were, with the exception of several whale skeletons, transferred to and mainly reinstalled in the new building. The most difficult part of this task consisted in dismantling and reconstructing the two large groups of American bison and moose. The moose group, which had been too greatly crowded, was much improved by the removal of two specimens, but the bison group was not changed. The other groups, namely, those of the Rocky Mountain sheep and goats, the reindeer, antelope, and musk ox, though not requiring to be rebuilt, needed extensive repairs, which was also true of many of the specimens mounted separately, and notably the large Pacific walrus, the sea elephant, the California sea lions, the manatee, and the dugong. The work connected with the mammals was mostly done by Mr. George Marshall and Mr. C. E. Mirguet, and that with the osteological specimens by Mr. J. W. Scollick.

The African, oriental, and palearctic mammals were overhauled and placed in the new cases provided for them. Owing to delay in securing the accessories desired for the zebra-oryx group, a temporary installation was effected which made it possible to exhibit this beautiful example of the taxidermist's art at the formal opening of the mammal hall on April 22, 1913. For the same occasion the African buffalo group was also temporarily arranged, and the fourth large case, destined for the rhinoceros group, was filled with individual specimens collected by the Smithsonian African Expedition. Subsequently the buffalo group, a very effective piece of work by Mr. George B. Turner, chief taxidermist of the Museum, was permanently installed, and near the end of the year, Mr. J. L. Clark, of New York, completed the white rhinoceros group, on which he had been

engaged for nearly two years. The latter is believed to represent the highest development of taxidermy either in this country or abroad, not only in the artistic grouping, the well-balanced design, and the truthful modeling of the animals themselves, but also in the masterly treatment of the accessories. Moreover, by resorting to a new technique in mounting the dry skin on the manikin, it is believed that a degree of permanency has been secured which was impossible by the older methods.

A beginning was made in transferring the bird groups into new all-glass top or mahogany frame cases, and the opportunity thus afforded was utilized for repairing and otherwise improving the exhibits. By a change in the arrangement of the general cases in which the birds are displayed it has been possible to locate these groups to better advantage and to increase the effectiveness of the hall. Forty-eight birds were mounted and a number remodeled for the exhibition series by Mr. N. R. Wood.

The outer end of the west wing on the second floor was opened to the public early in March, this having been rendered feasible by the rapid progress made in repairing and remounting the several hundred plaster casts of American fishes which now occupy the wall cases and some of the floor cases in that space. The old standards and bases formerly used for them were entirely discarded, and the casts fastened directly on the backs of the cases, except those of the flat-fishes, which are placed horizontally on sandy bottoms in table cases. Though the amount of work involved in restoring this material, mainly performed by Mr. William Palmer, was very great, it is fully justified by the results, and in its present condition the collection is as attractive as it is interesting and instructive. Under the direction of Dr. Paul Bartsch, considerable advancement was made with the installation of marine invertebrates in the south hall of the second floor, a large number of specimens having been prepared and colored, and the arrangement of the fauna north of Cape Cod tentatively completed.

The greater part of the systematic series of animals and the faunal series of the District of Columbia were transferred to new cases. In the osteological hall three new cases were added, namely, a large wall case containing a comparative exhibit of the limbs of vertebrates; a table case containing articulated and disarticulated skeletons of the various classes of vertebrates; and another of the same kind in which the chemical constituents of the animal body are illustrated. A new and striking feature introduced among the exhibits consists of 19 greatly enlarged models of the heads of as many different kinds of bats, done in wax by Mr. E. E. Hannan and afterwards cast in plaster, which serve to bring out clearly the peculiar physiognomy of these small mammals.

DEPARTMENT OF GEOLOGY.

The department of geology received 168 accessions aggregating 20,285 specimens, distributed among the several divisions and sections, as follows: Systematic and applied geology, 586; mineralogy and petrology, 4,983; invertebrate paleontology, 12,268; vertebrate paleontology, 647; and paleobotany, 1,801. Excellent progress was made in all branches of the work, including the classification and arrangement of the reserve collections, the improvement of the exhibition series, and the perfecting of the records of specimens, to such an extent, in fact, as to place the department in much better condition than at any previous time in its history. All of the collections, with the exception of certain unworked material, have been made readily accessible, and by means of systematic card catalogues, which have been mostly brought down to date, the exact location of any particular specimens may be quickly ascertained.

Systematic and applied geology.—Among the more important accessions to this division were a beautiful specimen of arborescent copper free from gangue, and another showing the same occurrence on a smaller scale in the original sandstone. They came from mines near La Paz, Bolivia, and were received from the U. S. Geological Survey. Exceptionally fine examples of zinc ores showing aurichalcite and smithsonite from the Tintic mining district, Utah, were presented by the Yankee Consolidated Mining Company, of Salt Lake City, through Mr. Victor C. Heikes. A series of radio-active materials and products, assembled by Dr. George F. Kunz, of New York City, and transmitted by him as a gift, includes specimens from Sir William Crookes, of London, England, and Dr. Alexander Phillips, of Princeton University. A number of interesting laterite specimens from various localities in India were obtained in exchange from the Geological Survey of India. The additions to the meteorite collection were as follows: Three nearly complete individuals of the Holbrook meteoric stone which fell July 19, 1912, near Aztec, Ariz., donated by Mr. F. C. Chekal, of Holbrook, Ariz.; an excellent example of a nearly complete individual of the Holbrook meteorite, weighing 1,120 grams, the gift of Mr. Clarence S. Bement, of Philadelphia, Pa., through Prof. F. W. Clarke; an example, weighing 625 grams, of the interesting brecciated meteoric stone which fell at St. Michel, Finland, July 12, 1910, acquired through exchange with the Foote Mineral Company, of Philadelphia, Pa.; and 18 fragments filling important gaps in the exhibition series, purchased from Mrs. Coonley Ward.

The installation and labeling of the exhibition collections received a proportionately large amount of attention. A work well advanced and soon to be completed was the provision of group labels for the cases in the section of applied geology, intended to broadly desig-

nate their contents, and so placed as to be conspicuous without marring the general effect. In course of preparation was another series of larger, supplementary labels, containing such descriptive scientific and industrial information as will lead to a fuller comprehension of the exhibits than can be obtained from the specimens themselves. These labels, which will be accompanied by maps showing the important producing centers for each of the industries represented, will be framed against the walls, each in close juxtaposition with the group to which it relates. In connection with the work of labeling, the exhibition cases were thoroughly refurbished, the specimens remounted and many of them reidentified and numbered. Minor changes and additions were also made, including the installation of a series of 14 wall panels, each 48 by 96 inches, intended primarily for displaying large slabs of building and ornamental stones. Two new wall cases were provided for exhibits of onyx marble and mineral waters, and four additional pedestals or bases were added in the hall of systematic geology. The Shepard collection of meteorites was overhauled, many of the small specimens were withdrawn from exhibition and the remainder arranged in a small Kensington case, thereby giving the collection greater individuality. Reading tables with reference books were placed in the various halls.

The reserve series was entirely rearranged in drawers, by kind and locality, and indexed by cards. This index, now consisting of about 20,000 cards, furnishes a classified record of all the material, with cross references, and an alphabetical list of the economically significant minerals so far as it has been possible to identify them without exhaustive chemical study.

The head curator of the department, Dr. George P. Merrill, under a grant from the National Academy of Sciences, continued his researches on the minor constituents of meteorites, of which a preliminary report was published. Further work in this direction is contemplated. Dr. Merrill also investigated and published on the Cullison, Perryville and Holbrook meteorites, and had in progress a series of simple tests designed to show the relative solubility of certain types of building materials in water acidulated with carbonic acid. Mr. Chester G. Gilbert and Dr. J. E. Pogue, assistant curators, respectively, of the divisions of geology and of mineralogy and petrology, made a detailed study of the copper ores of the Mount Lyell region, Tasmania, and undertook preliminary work looking toward an investigation of the origin of the chromite ores and of the nature of the copper in the so-called cupriferous pyrrhotite type of ores.

Mineralogy and petrology.—The most noteworthy acquisition of minerals consisted of 51 specimens received from the Geological Survey, including excellent specimens of ferberite, wolframite, scheelite, roscelite, rutile, cassiterite, etc. Polished and unpolished speci-

mens of chrysoprase and rutile in quartz, pink tourmaline with crystals of lepidolite, a specimen of manganese from Panama, and six specimens of polished agate constituted a valuable gift from Mr. A. E. Heighway, of New York City, to whom the Museum was also indebted for the loan of 3 tourmaline crystals and 4 cut pieces of gem chrysoprase, the latter being exceptionally fine examples. Eleven specimens of gems, including a beautiful suite of polished black opals from New South Wales and jade from China, were obtained by purchase. All of the important accessions in petrology were transmitted by the Geological Survey and comprised the following, namely: One hundred and seventy-one specimens illustrating the geology and ore deposits of the Park City district, Utah, described in Professional Paper No. 77 of the Survey, by Mr. J. M. Boutwell; 125 specimens of rocks from the Northeastern and Republic mining districts of Washington, described in a bulletin of the Survey now in press, by Prof. Waldemar Lindgren and Mr. Howland Bancroft; and 451 rock and ore specimens from the mining districts of New Mexico, described in Professional Paper No. 68 of the Survey, by Prof. Lindgren, Mr. Louis C. Graton and Mr. Charles H. Gordon.

The reorganization of the collections in this division, following the same lines as in systematic and applied geology, was carried well toward completion. A number of very desirable additions were made to the exhibition series of minerals, and an extensive display of petrological material was installed. The work of rearranging and labeling the reserve series, including the cleaning of specimens, was sufficiently advanced to make these collections convenient of access, the specimens most needed for reference being provided for in and adjacent to the laboratories in the third story and the remainder, constituting the greater bulk of the material, being stored in cases in the attic. The segregation of the duplicate specimens was also in large part accomplished. The work of the year related very largely to the petrological collections, the minerals having previously received most attention. The former are of very considerable extent and include many type sets from the Geological Survey. The labeling of the exhibition series as now constituted was completed, and card catalogues covering the same, as also the reserve series, the type specimens and the duplicates, have been prepared.

The comprehensive monograph on the turquoise, mentioned in the last report, was completed by Dr. Pogue, who also made a crystallographic study of cerussite.

Invertebrate paleontology.—Most prominent among the additions to the section of invertebrate paleontology were three transfers from the Geological Survey. The first of these comprised the type, figured and other important specimens, to the number of 1,952, described by Prof. Henry S. Williams in two monographs now in press by the

Survey, one of which deals with the Middle Devonian rocks, particularly of New York State, and the other and larger one with the early Devonian rocks of Maine, from which the Museum has hitherto had practically no material. The second consisted of 300 specimens from the Silurian rocks of the Eastport (Maine) quadrangle, including many types, which have been the subject of a paper by Prof. Williams published by the Museum, and of a larger work to be issued by the Survey, and which are of particular interest as the area had not previously been represented in the Museum, and also because of the relationship of the Maine Silurian faunas to those of Europe. The third accession, containing approximately 4,000 Ordovician fossils from the Central Basin of Tennessee, collected several years ago by Mr. E. O. Ulrich and Dr. R. S. Bassler, although including no type material is of much stratigraphic value.

Some 800 specimens of Paleozoic fossils from the Detroit River and other series of Canada, obtained by purchase from Rev. Thomas Nattress, of Amherstburg, Ontario, are especially important in that they illustrate the life of the uppermost Silurian and lowermost Devonian formations of the Detroit River region, from which the Museum has hitherto received no collections. The material derives additional significance from the fact that it can not be duplicated. About 1,000 specimens of lowest Silurian fossils were collected for the Museum in southwestern Ohio by Dr. Bassler, and about 500 specimens of Devonian and Lower Carboniferous mollusks from the Mississippi Valley were contributed by Mr. Frank Springer. Two collections of Tertiary fossils from various localities in the Canal Zone, collected for the Museum by Mr. D. F. MacDonald, the geologist of the Isthmian Canal Commission, were received during the year, one through that Commission, the other through the Costa Rica-Panama Boundary Arbitration Commission. Two fine slabs of fossil crinoids, presented by Mr. Thomas E. Williams, of Arvon, Va., through Prof. T. Nelson Dale, are of such exceptional character that they were placed on exhibition. An important series of 56 Mesozoic sponges, desired for display purposes, was obtained in exchange from the Peabody Museum of Yale University.

Much attention was paid to the improvement of the exhibition collections of invertebrate paleontology, which included the following new installations, namely, a geological column illustrating the arrangement of the rock formations of New Hampshire; a selection from the remarkably preserved fauna of the Middle Cambrian formations of British Columbia, collected and described by Secretary Walcott; a biological series of fossil sponges and graptolites; and a large slab of the crinoid *Scyphocrinus*. A card catalogue of the specimens on exhibition and the manuscript for about 1,200 labels were prepared. The acquisitions of the year were catalogued and

arranged; the card catalogue of all Paleozoic fossils was brought down to date; the large number of thin sections, many of which remained on the rough glass slides on which they were made, were transferred to fresh slides and properly covered and labeled; and the collection of Cambrian brachiopods described by Secretary Walcott in Monograph 51 of the Geological Survey was arranged and partially labeled. Some 50 boxes of material which had been in storage were opened and their contents appropriately assigned. Mr. Frank Springer gave generously of his time to the classification and arrangement of the large collection of fossil echinoderms, of which about one-third, filling over 300 standard drawers, had been revised by the end of the year. The Tertiary collections, under Dr. William H. Dall, were also in course of revision looking to the improvement of their installation.

Dr. Charles D. Walcott, Secretary of the Smithsonian Institution, continued his studies of the Lower and Middle Cambrian faunas of the Canadian Rockies, paying particular attention to the finely preserved material from the Burgess shale at Field, British Columbia. He finished and published his researches on the Upper Cambrian fauna of New York, and had well advanced a monograph on the trilobite genus *Dicellosephalus*. Dr. R. S. Bassler, curator of the division of paleontology, conducted researches in preparation of a monograph on the bryozoa of the American Tertiary, which is expected to occupy him for at least another year. He completed an article based on a new exhibit of fossil crinoids and prepared the faunal and illustration sheets for the Cincinnati Folio of the Geological Survey. Mr. Frank Springer, associate in paleontology, carried well toward completion his monograph on the *Crinoidea flexibilia*, the numerous quarto plates for which were finished, and had nearly ready for publication a monograph on the crinoid genus *Scyphocrinus*. He also had in preparation an article on the peculiar group of Cremacrinidæ. Dr. William H. Dall, associate curator in charge of the Cenozoic collection, completed a study of the Oligocene deposits of Tampa, Fla., and had nearly finished a description of the new brackish water fauna of the Satilla River of Georgia, and of Alexander, Tex. He was also engaged in working up the Tertiary fauna of western America and devoted considerable attention to that of the Panama Canal Zone in collaboration with the geologist of the Isthmian Canal Commission.

Vertebrate paleontology.—Through the addition of over 400 specimens, representing many new genera and species, to the already important collection of rare early Tertiary (Fort Union) mammals from Sweet Grass County, Mont., this section is now in possession of a sufficient variety of material to make possible an intelligent study of the fauna of that geological horizon. In Pleistocene cave deposits near Cumberland, Md., Mr. J. W. Gidley collected over 100

specimens, representing 22 recognizable genera and a slightly greater number of species, several of which are new to science. Mr. Copley Amory, jr., of Columbia University, while serving as a collaborator of the Museum, obtained some 30 fragmentary fossil mammal bones from the Old Crow River, Yukon Territory, about 100 miles north of the Arctic Circle, one of which is a phalanx or toe bone of a species of large camel, the first evidence of the former occurrence of this animal north of the United States. A nearly complete skull of a fossil horse, which had been described by Dr. O. P. Hay, and a tooth of a mastodon were received as a loan from Mr. C. P. Snyder, of Tofty, Alaska. A miscellaneous collection of fossil mammalian remains from the Miocene deposits of the shores of Chesapeake Bay in the vicinity of Chesapeake Beach, Md., was presented by Mr. William Palmer and Mr. A. C. Weed, of the Museum staff.

By the employment of temporary help an exceptional amount of preparatory work was accomplished, probably more than in any previous year. Attention was mainly directed to certain miscellaneous material belonging to the Marsh collection, consisting of fragmentary vertebrate remains still embedded in the matrix as received from the field a number of years ago. This material fills several hundred boxes and trays, of which the contents of 46 boxes and 150 trays were cleaned up and the bones assembled for each individual specimen represented. Several new and unexpected finds resulted, including many complete ribs of *Teleoceras*, a number of skulls and jaws of the large creodont *Merycochaerus* and of rare carnivores from the John Day and Miocene beds of Nebraska, and a new genus and species of dinosaur from the Lance formation of Wyoming which has been described by Mr. Gilmore under the name *Thescelosaurus neglectus*. The last mentioned is represented by a nearly complete skeleton, which seems to have been entirely overlooked by Prof. O. C. Marsh, under whose direction the material was collected. Much was also done toward cleaning the specimens from the cave in Cumberland, Md., received during the year. Other work turned out by the preparators comprised a free mount of the small two-horned rhinoceros, *Diceratherium*, a relief mount of the dinosaur *Stegosaurus stenops*, mounts of a large hind limb of *Brontosaurus* and of a considerable number of small batrachians and reptiles, and remounts of a skeleton of *Hesperornis regalis* and of a cast of *Pareiasaurus bairdi*. The type specimen of *Hoplitosaurus marshi* was cleaned, good progress was made on a free mount of a skeleton of *Stegosaurus*, of which genus some 100 separate bones of other individuals were prepared for the reserve series, and work on a nearly complete tail of a large bipedal dinosaur, *Trachodon*, was well under way.

Mr. Charles W. Gilmore, assistant curator of fossil reptiles, described the new dinosaur from the Lance formation of Wyoming

above referred to, and continued work on his monograph of the armored dinosaurs represented in the Museum collection, with special reference to the osteology of *Stegosaurus*, which he expects to finish during the current year. Mr. James W. Gidley, assistant curator of fossil mammals, completed a preliminary investigation of the recently discovered cave deposits at Cumberland, Md., and continued his study of the Fort Union mammals.

Paleobotany.—The principal addition to the section of paleobotany, received from the Geological Survey, consisted of 271 types and figured specimens and about 1,500 other specimens of Cretaceous and Tertiary plants from the Raton-Mesa region of Colorado and New Mexico, which had served as the basis of a monograph by Dr. F. H. Knowlton, now in press by the Survey.

The introduction of two new wall cases in the exhibition hall permitted a partial readjustment of the collections there. The reserve series of the section was rearranged and labeled, largely through the services of Mr. T. E. Williard, of the Geological Survey, under the supervision of Dr. Knowlton. The arrangement is stratigraphical and by locality, and is covered by a card catalogue. Dr. Knowlton, who is custodian of mesozoic plants, continued his studies on the Museum collection of fossil plants from Florissant, Colo.

Examination of specimens.—The department of geology, more than either of the others, is called upon to examine and report on specimens sent to the Museum for determination from all parts of the country. During last year 540 separate lots were received, of which 494 lots consisted of rocks, ores, and minerals, forwarded mainly in the belief that they would be found to indicate mineral deposits of value. While the Museum is not equipped for conducting elaborate analyses, simple determinative methods are sufficiently conclusive in most cases, and such information as could readily be given was furnished to the applicants.

Explorations.—The only geological field work carried on directly by the Museum consisted of the examination of a small cave in Devonian limestone exposed in a railroad cut near Cumberland, Md., which was found to contain a large number and great variety of fossil vertebrate remains of Pleistocene age. The locality was visited by Mr. J. W. Gidley in October, 1912, and again in May and June, 1913, without, however, completing the investigation. In the material brought to the Museum over 30 distinct species of mammals have already been distinguished, the most of which represent forms now extinct or living in remote regions. Among them are the jaws of a new species of dog and the nearly complete skull of an extinct antelope closely related to the eland of Africa. While the specimens are all fragmentary, some of them are sufficiently well preserved to be used for exhibition purposes.

Dr. Charles D. Walcott, Secretary of the Institution, continued his geological investigations in the Canadian Rockies, and in the Mount Robson region of Alberta discovered a new and interesting Cambrian fauna. His season's work resulted in a very large and rich collection of Cambrian fossils. Dr. R. S. Bassler, on detail for several weeks with the United States and Maryland geological surveys, obtained important series of fossils for the Museum in Ohio and Maryland, and Mr. Copley Amory, jr., serving as a collaborator of the Museum and at his own expense, secured interesting vertebrate remains in Alaska, as before described.

Under the direction and at the expense of Mr. Frank Springer, associate in paleontology, Mr. Frederick Braun made prolonged trips through the Appalachian Valley from Virginia to Tennessee in search of crinoids and cystids in the Ordovician limestone. Later, in the region of Cape Girardeau, Mo., Mr. Braun secured from Lower Devonian rocks some remarkable examples of the bulbous rooted crinoid, *Scyphocrinus*, which show that the so-called *Camarocrinus* is only the root of this form. Four large slabs containing specimens illustrating this discovery were sent to the Museum.

THE ARTS AND INDUSTRIES.

Somewhat over a year ago, as explained in the last report, active steps were taken toward rehabilitating those branches of the department of the arts and industries which, established in 1880, have for a considerable period been in a disorganized condition owing to the necessity of turning over to other subjects the space they had been occupying, and thereby forcing their collections into storage. By the transfer of the natural history departments to the new building accommodations have been secured for renewing the work in these neglected branches, which will be pressed as rapidly as the means permit. The present plans call for the development and illustration of the several subjects on a broader and more practical basis than had originally been contemplated, so that, aside from the primary purpose of education, the collections will serve as distinct aids to the great industries of the United States in demonstrating their importance in the life of our people and in recording the economic changes taking place in each of them. The progress made up to the close of last year, as evidenced in the exhibition halls, was sufficiently great to very materially attract public notice.

In extending its influence over the industrial interests of the country with a view to their promotion and their regulation, the Federal Government has established a number of bureaus for conducting investigations and experiments, and even for rendering direct assistance which is being done in many ways. With this important

work the Museum does not come in competition. Its object in this connection as with the natural history branches, and as defined by law, is to supplement the activities of the bureaus and to cooperate in furthering their purposes. The Museum is the depository for the material things collected by these bureaus or desirable to assemble in their behalf and in behalf directly of the industries themselves, illustrating the extent and variety of raw materials used by the latter, their methods, their products and their history. As to the utility of the Museum's part in this great field, almost daily instances can be cited, despite the present very incompleteness of the collections, and with the rounding out of its organization and the building up of its collections, the department cannot fail to do for this country what corresponding institutions have accomplished for the industries of England, France and Germany.

Without disturbing at present the relations of the several art-industrial branches which have continued to be administered under the Museum organization into three departments, established in 1897, and also without fully maturing plans for a thoroughly comprehensive department of the arts and industries, attention has for the moment been mainly directed to two subjects which are of paramount importance and which, next to those industries concerned with the production of food, occupy the foremost place among the industries of this country, namely, textiles and mineral technology. In connection with the former subject, however, certain other products of animal and vegetable origin are likewise receiving consideration.

Owing to the diversity of conditions underlying the illustration of the different industries, a uniform policy applicable to all branches is quite impossible. With the textiles and certain other subjects in which this method can be carried out, it is proposed, as in natural history, to divide the collections into two main groups, an exhibition series and a study or reference series. As planned for the division of textiles, the exhibition series, aside from a historical display, setting forth important stages in its development, will be mainly illustrative of the latest processes and products of the industry, the materials being selected and arranged and labeled to furnish an impressive object lesson for the public. The reference series, maintained for the benefit of manufacturers and technical students, will, on the other hand, consist of a large, comprehensive and constantly increasing collection of authentic and standardized raw and manufactured materials, which, not requiring to be displayed, may be provided for in a compact arrangement, though demanding an elaborate classification, provisions for easy reference, and a system of labeling and cataloguing that will tend to its full and ready utilization. In mineral technology the conditions are not dissimilar, though its field has for some time

been partly covered by the collections of applied geology and mineralogy organized as branches of the department of geology. The most important work to be immediately undertaken relates to the processes of mining and manufacture.

The division of mineral technology, which had been nominally recognized since 1904, with Dr. Charles D. Walcott as honorary curator, was last year given a definite status with a paid curatorship. Mr. Chester G. Gilbert, previously assistant curator of systematic and applied geology, was appointed to this position but as the change did not take place until in June, there is essentially no progress to report in this connection. The extensive collections received from exhibitors at the St. Louis Exposition of 1904, consisting of various models and of many examples of crude and finished mining products, will first be gone over, and as much of the material as is of permanent value will be put in shape as rapidly as possible. Attention will also at once be given to the formulation of plans covering at least the more important features to be illustrated in the public halls, in order that steps may be taken without delay to acquire the necessary additional exhibits. The work of preparing and installing the models, some of which are large and complicated, involves considerable thought and labor, and must, therefore, proceed somewhat slowly, but the several rooms will be successively opened to the public as they are placed in presentable condition. The exhibition as a whole promises to be especially notable and quite in advance of anything of the kind heretofore attempted.

The reestablishment of the division of textiles was effected somewhat over a year earlier, or on March 1, 1912, with the appointment as curator of Mr. Frederick L. Lewton, who was also given charge of such other economic plant and animal products as are not otherwise specifically provided for. The last four months of the fiscal year 1912 were mainly occupied in unpacking and overhauling the collections formerly exhibited, but long in storage, a work which continued into the early part of last year. Much of the material was found to have seriously deteriorated, though the greater part remained in condition to be utilized, and, having been mostly assembled over 25 years ago, it is especially valuable for its bearing on the history and development of the subjects represented. Notwithstanding the late period of the year when this work was started, a very considerable exhibition of a provisional nature, based entirely on these collections, had also been installed by the end of June, 1912. In 37 cases on the gallery of the south hall in the older building were arranged a series of the raw materials and of the successive stages of manufacture of all the important textile and cordage fibers, comprising silk, cotton and other seed hairs, flax, hemp, jute and other bast fibers, palm, grass, leaf and other structural fibers, wools and hairs, felt, knit goods,

carpets, cordage, and machine-made laces. Many samples of hand-some Japanese figured silks were also shown. Placed tentatively in the west south range were exhibits of raw silks, raffia, and pine needle fiber, manufactured ramie, ingrain carpets, and paper fabrics. Of animal products, 15 cases were filled with specimens illustrating the utilization and manufacture of ivory, bone, horn, tortoise-shell, whalebone, feathers, hair, bristles, gut, sponges, shells, and leather. Of the collection of foods no definite disposition had been made except to fumigate and further safeguard for reference the very valuable series of food materials of the American Indians, which were collected during important ethnological investigations and which it would now be impossible to replace.

During last year marked progress was made in the acquisition of textile material, in the extension of the exhibition collections, and in the general work of the division. All of the producers who were approached, recognizing the importance of the scheme proposed in its bearing on this varied and extensive industry which comes into such intimate and personal relation with the people, gave it their unqualified approval, with such cordial assurance of support as to insure the realization of the Museum's plans in this direction. The exhibitions of the division will center in the south hall of the older building, where the installations of the year were mainly placed. Thence they will extend into the east-south range and the southeast court, and occupy such of the adjacent galleries as they may require.

The total number of accessions during the year in the line of textiles was 33, of which the more important, all generously presented except as otherwise noted, were as follows: A collection of silk fabrics, etc., from Messrs. Cheney Brothers, of South Manchester, Conn., consists of piece-dyed, yarn-dyed, printed, jacquard, and pile goods, samples of raw and thrown silk, and specimens illustrating processes in the manufacture of spun silk yarn. The series showing the utilization of silk wastes in the manufacture of spun silk yarns is of special interest as this branch of the industry is but little known by the general public. The samples of dress silks comprise the finest qualities of satins, foulards, taffetas, ottomans, bengalines, chiffons, voiles, crêpes, etc., while the drapery silks include brochés, armures, satin damasks, fine reproductions of antique brocades, reproductions of Venetian velvets, etc. The National Silk Dyeing Company, of Paterson, N. J., contributed a collection of silk fabrics and yarns which has been arranged to show the application of color to silk and illustrate skein and piece dyeing and surface and warp printing of silks. It includes skeins of thrown silk arranged in a carefully graduated series of 150 shades. The Bureau of Entomology of the Department of Agriculture deposited a series of silk cocoons and raw silk, and a few models of appliances used in rearing silk-

worms, besides a papier-mâché model of a silkworm 24 inches long, which may be taken apart for studying the internal anatomy. Samples of the principal varieties of commercial raw silk were received from Messrs. A. P. Villa & Brothers, of New York City.

For a large number of 3-yard samples of plain and fancy cotton goods, comprising percales, shirtings, organdies, challies, crêpes and flannels, in dress goods; and silkalines, cretonnes, drillings, scrims, and etamines, in drapery and upholstery materials, the Museum is indebted to the Pacific Mills, of Lawrence, Mass., through Messrs. Lawrence & Co., of Boston; and from the same source were also secured 89 large folio albums containing samples of American and foreign cotton, silk and woolen goods, covering the period between 1878 and 1910, which will form the basis for an extensive reference collection arranged by periods. Specimens of velveteen and corduroy, illustrating the processes of manufacture, with which most persons are unfamiliar, were presented by the Merrimack Manufacturing Co., of Lowell, Mass., likewise through Messrs. Lawrence & Co. A set of official grades of white American cotton now used in all cotton exchanges for grading American upland cotton, and a large collection of carefully identified raw plant fibers, which will be of great value in the preparation of microscopic mounts of authentic material, were received by transfer from the Bureau of Plant Industry of the Department of Agriculture. Samples of rough and harsh Peruvian and Chinese cotton imported into the United States for mixing with the wool in the production of flannels, underwear and hosiery, were contributed by the Wonalancet Co., of Nashua, N. H., and specimens of cotton dress linings, by Messrs. A. G. Hyde & Sons, of New York.

The American Woolen Co., of Boston, Mass., presented a fine series of specimens and a set of 71 photographs illustrating the processes in the manufacture of worsted yarn according to both the French and English systems, and also samples of woolen and worsted fabrics, the latter having been prepared in the National and Providence Worsted Mills, at Providence, R. I., under the direction of Mr. G. B. Bartlett, assistant treasurer. From Mr. Augustus E. Ingram, American consul at Bradford, England, was received a series of specimens and photographs mounted on ten large cards, illustrating the manufacturing processes for fine wools, colored yarn-spinning, blending of colored tops and the finishing processes for worsted goods, an instructive exhibit prepared by Prof. A. M. Barker of the Bradford Technical College with the consent of the Education Committee of the city of Bradford.

Examples of curtain fringes and upholstery trimmings, contributed by the William H. Horstmann Company, of Philadelphia, Pa., elucidate the great transformation in the types of household upholstery trimmings which has taken place during the last decade, in

which the heavy silk tassels and fringes have given place to sanitary decorations in the form of light cotton trimmings. The same company also presented 5 pairs of heavy silk curtain loops, imported by the founder of the firm about 40 years ago, being authentic specimens representing different periods of design, from the Gothic to the Napoleonic period.

A series of specimens showing the manufacture of linen thread, including rough and dressed samples of Dutch, Flemish, Irish and Courtri flax, and yarns and thread in hanks and on spools, was donated by the Linen Thread Co., of New York City; and another series covering the manufacture of ramie thread and yarn, from the crude fiber to the finished material, and including weaving, knitting and novelty threads, was received from the Superior Thread & Yarn Co., of New York City.

A very instructive exhibit, including both specimens and photographs, demonstrating the manufacture of Wilton and Brussels rugs and carpets, from Mr. M. J. Whittall, of Worcester, Mass., has attracted much attention. It contains a partly finished piece of Brussels and Wilton carpet, showing in place the wires by means of which the looped or velvet surfaces are obtained. Samples of millinery braids, including many beautiful patterns and illustrating the variety of materials from which they are now made, were contributed by Messrs. Isler & Guye, of New York, who also furnished a collection of the principal varieties of woven or body hats now imported into this country.

A collection of Philippine mats, baskets, hats, fabrics and other useful articles, together with the raw, fibrous materials from which they are made, and accompanied by photographs and herbarium specimens of the plants used, was obtained by purchase from the Bureau of Education, at Manila, P. I. It contains fine examples of the famous Romblon and Tanay mats and Buntal or Lucban hats. The chief value of the collection consists in the correct botanical identification of the materials employed in making the various objects, and these authentic specimens will be of much value in the determination of future acquisitions.

A 600-hook, single lift, Jacquard machine, made by Crompton & Knowles, was presented by the Sauquoit Silk Manufacturing Company, of Philadelphia, Pa., and will be used to demonstrate the principles and operation of this important textile device. A self-threading shuttle of the latest model and complying with the recent Massachusetts sanitary shuttle law was the gift of the Draper Company, of Hopedale, Mass., which also sent an old loom reed, such as was in use 60 or 70 years ago. In this the dents are made of cane or split bamboo instead of wire as at present. Specimens of pitch-band reeds for use in cotton, silk, and wool looms, and of all-metal

reeds for fine silk and ribbon looms, were received from the Knowles Loom Reed Works, of New Bedford, Mass.; and an unusual hand spinning wheel, brought from Belgium by her grandfather about 200 years ago, was deposited by Mrs. Chas. W. McFee, of Washington. The Arabol Manufacturing Company, of New York, contributed a comprehensive exhibit of cloth and yarn-finishing materials, comprising gums, glues, starches, soaps, oils, sizes, and other stiffening or softening compounds.

Besides the foregoing there were several important additions to the collection of vegetable products other than textiles. The most noteworthy related to the invention and application of vulcanized rubber by the late Charles Goodyear, and was deposited by his grandson, Mr. Nelson Goodyear, of New York. The collection includes life-size portraits of Charles Goodyear, Charles Goodyear, jr., and Daniel Webster, done in oils on panels of hard rubber by G. P. A. Healy in 1855; a book of manuscript notes and sketches pertaining to the application of vulcanized rubber, by Charles Goodyear; 12 medals of gold, silver, and bronze, awarded the inventor; a chatelaine watch and chain, mounted in hard rubber and inlaid with jewels; and other pieces of jewelry. The chatelaine, a gift of Charles Goodyear to his wife, is a replica of one presented by him to Empress Eugénie of France. Specimens of gutta percha, rubber and rubber-tree products, and of cocoanuts and coconut products were contributed by the Forestry Department of the Federated Malay States, through Mr. Leonard Wray, Commissioner to the Third International Rubber and Allied Trades Exposition at New York; and a trunk of the Para rubber tree (*Hevea brasiliensis*), illustrating the herringbone method of tapping, was presented by the Ceylon Commissioners to the same exposition, on behalf of the Royal Botanic Gardens, at Peradeniya, Ceylon. A collection of small samples of commercial grades of crude rubber was received from the New York Commercial Company.

The Treasury Department, through the Supervising Tea Examiner, furnished samples of the official tea standards which are used in testing the quality of every pound of tea imported into the United States. There are twelve standards for the current year, representing all the main types of tea received from abroad. The Corn Products Refining Company, of New York, contributed a series of specimens illustrating the starches, sugars, oil, and other products obtained from corn.

The curator of the division, Mr. Frederick L. Lewton, made several visits to the textile centers of the country for the purpose of getting in touch with the textile manufacturers and of studying the textile industries at first hand, as well as of soliciting material for the Museum, and most of the accessions of the year resulted

from these trips. A study of the foreign and indigenous cottons, begun by him before his appointment to the Museum, resulted in the publication during the year of three papers, dealing, respectively, with the cottons of the Hopi Indians in Arizona and the Indians of Rubelzul in eastern Guatemala, and with a new genus of Hawaiian trees which had formerly been considered as congeneric with the cottons. A systematic investigation of the cottons of Africa and the Indian Ocean region has been commenced with the object of determining the number of species and varieties occurring in those areas and the proper identification of the types of staples coming on the market. An annotated glossary of textile fabrics, which it is hoped can be illustrated by actual specimens, has also been started, and descriptions of new fabrics appearing on the market and mentioned in the trade papers are being recorded.

DISTRIBUTION AND EXCHANGE OF SPECIMENS.

The distribution of duplicate material to schools and colleges for teaching purposes comprised 48 regular sets, of which 2 were of rocks, 26 of ores and minerals and 20 of fossil invertebrates, and the same number of sets specially prepared, consisting mainly of marine invertebrates, insects, fishes, rocks, ores, minerals, and fossils, besides about 1,500 pounds of material suitable for blowpipe and assay analysis. The total number of specimens used for this purpose was about 7,300. Over 21,000 duplicates were also disposed of in exchange transactions, about 84 per cent of this number being plants. Two hundred and six lots of specimens were sent to specialists, both at home and abroad, for study and classification, mainly on behalf of the Museum, but also to some extent in the interest of research work for other institutions. They comprised 6,437 animals, 4,542 plants, and 2,048 rocks, minerals and fossils, a total of 13,027 specimens, besides 742 packages of unassorted marine invertebrates.

The establishments abroad with which exchange relations were had during the year were as follows: The British Museum of Natural History, London, the Royal Botanic Gardens, Kew, the University Botanic Garden, Cambridge, and Alexandra Park, Manchester, England; the Muséum d'Histoire Naturelle, and the Herbarium of Prince Roland Bonaparte, Paris, France; the Königl. Botanischer Garten und Königl. Botanisches Museum, Dahlem, Steglitz bei Berlin, the Botanischer Garten, Bremen, and the Museum für Völkerkunde, Leipzig, Germany; the College of Mines, Leoben, Styria, and the K. K. Naturhistorisches Hofmuseum, Vienna, Austria; the Hungarian National Museum, Botanical Section, Budapest, Hungary; the Muséum d'Histoire Naturelle, Fribourg, Switzerland; the Rijks-

Herbarium, Leiden, Holland; the Jardin Botanique de l'Etat, Brussels, Belgium; the Universitets Botaniske Museum and Zoologiske Museum, Copenhagen, Denmark; the Riksmuseets, Botaniska Afdelning, Stockholm, and the Kungl. Universitets Botaniska Museum, Upsala, Sweden; the Kaiserl. Botanischer Garten, and Musee d'Anthropologie et d'Ethnographie de Pierre le Grand, St. Petersburg, Russia; the Durban Museum, Durban, Union of South Africa; the Australian Museum and Australian National Herbarium, Sydney, New South Wales; the Western Australian Museum and Art Gallery, Perth, West Australia; the Geological Survey of India, Calcutta, and Royal Botanic Garden, Sibpur, India; the Agricultural College, Tokyo, Japan; the Museo Nacional, San José, Costa Rica; the Department van den Landbouw, Paramaribo, Surinam; the Museum Goeldi, Pará, Brazil; the Colegio de San Ignacio, Medellín, Colombia; and the Canadian National Herbarium, Ottawa, Canada.

NATIONAL GALLERY OF ART.

The permanent acquisitions during the year consisted of 11 paintings, of which 9 are in oil and 2 in pastel. Seven of these were additions by Mr. William T. Evans, of New York, to the collection of the works of contemporary American painters, of which the initial gift, comprising 36 examples, was made in the early part of 1907. With consistent faith in the future of the Gallery and encouraged by the public appreciation of the part he was taking in furtherance of this belated effort to realize one of the most important conditions imposed by the Smithsonian Act of 1846, Mr. Evans has generously continued year by year to materially augment his most desirable donation until at the close of last year it numbered 144 paintings, in which 103 artists of this country, some deceased, but the great majority still living, were represented. For the period covered it is the most comprehensive and the most important collection of American works that has been assembled in any of our museums. The contributions of Mr. Evans during last year were as follows:

Frank De Haven. Castle Creek Canyon, South Dakota.

Edwin Willard Deming. The Mourning Brave.

Robert David Gauley. The Fur Muff.

Charles Paul Gruppe. The Meadow Brook.

Walter Shirlaw. Water Lilies.

Otto Walter Beck. Christ before Pilate, and Suffer the Little Children to Come unto Me, both in pastel.

The other 4 paintings were comprised in 2 donations and 2 bequests, the former consisting of Twilight after Rain, by Norwood Hodge MacGilvary, presented by Mr. Frederic Fairchild Sherman, of New York, in memory of his wife, Eloise Lee Sherman; and The Wreck, by Harrington Fitzgerald, of Philadelphia, contributed by the

artist. The first of the bequests, from the late Mrs. Elizabeth C. Hobson, of Washington, was a painting executed by Hamdy Bey in Constantinople in 1884 expressly for Mrs. Hobson, and entitled Tomb of "Mahomet the Gentleman" at Broussa; the other was a portrait of Col. Albert G. Brackett, U. S. Army, by G. P. A. Healy, devised to the Gallery by Mrs. Brackett, also formerly a resident of Washington.

The Lewis collection of Washington relics, purchased by the Government in 1878, contained an oil painting of General Washington by an undetermined artist, which was retained at the Department of the Interior when the Lewis collection was transferred to the National Museum in 1883. This portrait, more recently turned over to the Smithsonian Institution, was placed in the Gallery during last year, as was also a marble allegorical statue entitled *Il Penseroso*, the work of Joseph Mozier (1812-1870), which had previously been exhibited in the older building.

Mr. Charles L. Freer announces important additions from the Far East to the rich collection of American and oriental art of which the people of the Nation were made the beneficiaries several years ago. Under the terms of the gift, this great and generous donation still remains in the custody of Mr. Freer, in Detroit, for further study and perfection, and to enable him to work out appropriate methods for installing its varied treasures as a basis for planning the building in which it will finally be housed in Washington.

The loans received by the Gallery, consisting mainly of oil paintings, were as follows: From Mrs. Abercrombie-Miller: *Alpine Landscape*, by Hillner, and *Sheep*, by Eugène Verboeckhoven. From Dr. Thomas M. Chatard: *Portrait of Henrietta Maria*, by Janssens, *Portrait of Mrs. Rous*, by Sir Peter Lely, and *Portrait of Mrs. Nicholas Bosley of Hayfields, Md.*, by Thomas Sully. From Rev. F. Ward Denys: *Madonna and Child*, by Perugino, and *Saint Michael*, by Guido Reni. From Hon. George Peabody Wetmore: *Military Review*, a water color, by Edouard Detaille, and *Versailles*, by Constant Wauters. From Mrs. Frances E. Musgrave: *Death Preferred*, by J. Van Lerius. From Mr. Benson B. Moore: *Portrait of Rembrandt*, attributed to himself. From Mr. J. Carroll Beckwith: *The Emperor*, by Mr. Beckwith. From Mr. and Mrs. Charles Francis Adams: Two portraits of Mr. Adams, by Robert Vonnoh, one full length, the other a bust. From Mr. Walter R. Tuckerman: *Portrait of Joseph Tuckerman, D. D.*, by Gilbert Stuart. From Mrs. Henry Wells: A copy of Murillo's painting *The Beggars*. From Mrs. Mary Peoli Maginn: *Cupid Caged and Love Conquers*, by John J. Peoli. From Mrs. Florence A. Ebbs: Two pieces of marble sculpture, namely, *Cordelia*, attributed to Harriet Hosmer, and *Esmeralda*, by Romanelli.

The screen inclosure in the north wing of the new building, constructed for the paintings of the Gallery and furnishing about 950 running feet of interior wall surface, has been fully occupied at all times, and to some extent the outer surfaces at the ends of the inclosure have also been utilized. All permanent acquisitions have, as usual, been photographed and glazed as received, only 4 of the paintings in the collection, which are of too large a size to permit of this means of protection, being without glass at this time.

The vacancy in the Smithsonian Advisory Committee on the National Gallery of Art, caused by the death of Francis Davis Millet, its chairman, one of the victims of the *Titanic* disaster in the spring of 1912, was filled by the appointment of Mr. C. Y. Turner, director of the Maryland Institute Schools of Art and Design in Baltimore. There have been no other changes in the personnel of this committee since its organization in 1908, and its membership is as follows: Mr. C. Y. Turner, Chairman, Mr. Frederick Crowninshield, Mr. Edwin H. Blashfield, Mr. Herbert Adams, and Mr. William H. Holmes, Secretary. The Gallery was represented at the annual convention of the American Federation of Arts, held in Washington on May 15 and 16, 1913, by its curator, Mr. Holmes.

Below is given a list of the paintings and sculpture which were on exhibition in connection with the Gallery at the close of last year, June 30, 1913. It includes both the permanent possessions of the Gallery and the loans, but none of the many works of art assigned to various other branches of the Museum, such as graphic arts, history, archeology, ethnology, textiles and ceramics.

BEQUEST OF HARRIET LANE JOHNSTON.¹

Sir William Beechey (1753-1839).

Portrait of Miss Murray.

J. Henry Brown (1818—).

Miniature of President Buchanan.

Miniature of Harriet Lane Johnston. (Lent by Miss May S. Kennedy.)

John Constable (1776-1837).

The Valley Farm.

Henry Dexter (1806-1876).

Marble bust of President Buchanan.

Jacob Eicholtz (1776-1842).

Portrait of President Buchanan, at about 40 years of age.

Sir John Watson Gordon (1798-1864).

Portrait of the Prince of Wales (King Edward VII) in 1862.

John Hoppner (1758-1810).

Portrait of Mrs. Abington.

¹ Received in 1906.

- Cornelis Janssens (Van Keulen) (1590-1664).
 Portrait of Madam Tulp.
- Sir Thomas Lawrence (1769-1830).
 Portrait of Lady Essex as Juliet.
- Bernardino Luini (1460-1535).
 Madonna and Child.
- Frank B. Mayer (1827-1899).
 Independence.
- Harper Pennington.
 Portrait of James Buchanan Johnston at the age of 14 years.
- Francis Pourbus the younger (1569-1622).
 Portrait of Josepha Boegart.
- Sir Joshua Reynolds (1723-1792).
 Portrait of Mrs. Hammond.
- William Henry Rinehart (1825-1874).
 Marble bust of Henry Elliot Johnston.
 Marble bust of Harriet Lane Johnston. (Lent by Miss May S. Kennedy.)
 Marble Cupid. Henry E. Johnston, jr., at the age of 2 years, as Cupid stringing his bow.
- George Romney (1734-1802).
 Portrait of Miss Kirkpatrick.
- Thomas Prichard Rossiter (1817-1871).
 The Prince of Wales (King Edward VII) and President Buchanan, with the Prince's suite, members of the President's Cabinet and other guests, at the tomb of Washington, Mount Vernon, 1860.
- Edwin Lord Weeks (1849-1903).
 A Street Scene in the East.
- Artist unknown. (After Correggio.)
 Madonna and Child.

Comprised in the Harriet Lane Johnston bequest are also several interesting miscellaneous articles which are exhibited in connection with the paintings and sculptures.

PAINTINGS BY CONTEMPORARY AMERICAN ARTISTS PRESENTED BY
 MR. WILLIAM T. EVANS, 1907 TO 1913.

- John White Alexander.
 A Toiler.
- Hugo Ballin.
 The Sibylla Europa—Prophesied the Massacre of the Innocents.
 The Lesson.
- John Wesley Beatty.
 Plymouth Hills.

Otto Walter Beck.

Christ before Pilate. (Pastel.)

Suffer the Little Children to Come unto Me. (Pastel.)

James Carroll Beckwith.

The Blacksmith.

Frank Alfred Bicknell.

October Morning.

Ralph Albert Blakelock.

At Nature's Mirror.

The Canoe Builders.

Moonrise.

Sunset, Navarro Ridge, California Coast.

Robert Frederick Blum (1857-1903).

Canal in Venice, San Trovaso Quarter.

George H. Bogert.

Sea and Rain.

George Elmer Browne.

The Wain Team.

George de Forest Brush.

The Moose Chase.

William Gedney Bunce.

Sunset, San Giorgio, Venice.

Emil Carlsen.

The South Strand.

Mary Cassatt.

Caresse Infantine.

William Merritt Chase.

Shinnecock Hills.

Frederick Stuart Church.

The Black Orchid.

Circe.

William Baxter Palmer Closson.

Nymph and Water Babies at Play.

William Anderson Coffin.

September.

J. Foxcroft Cole (1837-1892).

Late Afternoon near Providence.

Charlotte Buell Coman.

Early Summer.

Eanger Irving Couse.

Elk-Foot (Pueblo Tribe).

Kenyon Cox.

Plenty.

Louise Cox.

May Flowers.

Bruce Crane.

Autumn.

Charles Courtney Curran.

The Perfume of Roses.

Leon Dabo.

Evening on the Hudson.

Elliott Daingerfield.

The Child of Mary.

Charles Harold Davis.

Summer.

Henry Golden Dearth.

An Old Church at Montreuil.

Frank De Haven.

Castle Creek Canyon, South Dakota.

Edwin Willard Deming.

The Mourning Brave.

William Rowell Derrick.

The Plaza.

Louis Paul Dessar.

Return to the Fold.

The Watering Place.

Charles Melville Dewey.

The Harvest Moon.

The Close of Day.

Thomas Wilmer Dewing.

Summer.

Paul Dougherty.

Sun and Storm.

Charles Warren Eaton.

Gathering Mists.

Wyatt Eaton (1849-1896).

Ariadne.

Benjamin R. Fitz (1855-1891).

A Pool in the Forest.

James William Fosdick.

Adoration of Saint Joan of Arc. (Fire etching on wood.)

Ben Foster.

Birch-Clad Hills.

George Fuller (1822-1884).

Ideal Head.

Portrait of Henry B. Fuller, 1873.

Henry Brown Fuller.

Illusions.

Robert David Gauley.

The Fur Muff.

Edward Gay.

The Hillside.

Lillian Matilde Genth.

Adagio.

Depths of the Woods.

R. Swain Gifford (1840-1905).

Near the Ocean.

Sanford R. Gifford (1823-1880).

The Villa Malta.

Albert Lorey Groll.

Laguna—New Mexico.

Charles Paul Gruppe.

The Meadow Brook.

Childe Hassam.

Spring, Navesink Highlands.

The Georgian Chair.

Arthur Turnbull Hill.

After a Storm, Amagansett.

Winslow Homer (1836-1910).

High Cliff, Coast of Maine.

The Visit of the Mistress.

William Henry Howe.

My Day at Home.

Alfred Cornelius Howland (1838-1909).

Friendly Neighbors.

William Morris Hunt (1824-1879).

The Spouting Whale.

George Inness (1825-1894).

Niagara.

Sundown.

Georgia Pines.

September Afternoon.

Alphonse Jongers.

Portrait of William T. Evans.

William Sergeant Kendall.

An Interlude.

John La Farge (1835-1910).

Visit of Nicodemus to Christ.

William Langson Lathrop.

The Three Trees.

Ernest Lawson.

An Abandoned Farm.

Louis Loeb (1866-1909).

The Siren.

- Will Hicok Low.
Christmas Morn.
Albert Pike Lucas.
October Breezes.
William Edgar Marshall (1836-1906).
Portrait of Henry Wadsworth Longfellow.
Portrait of the Artist, age 23.
Homer D. Martin (1836-1897).
Lower Ausable Pond.
Evening on the Seine.
The Iron Mine, Port Henry, New York.
Willard Leroy Metcalf.
A Family of Birches.
Robert C. Minor (1840-1904).
A Hillside Pasture.
Great Silas at Night. .
James Henry Moser.
Evening Glow, Mount McIntyre.
Henry Siddons Mowbray.
Idle Hours.
John Francis Murphy.
The Path to the Village.
Indian Summer.
Charles Frederick Naegele.
Mother Love.
George Glenn Newell.
Mists of the Morning.
Leonard Ochtman.
Morning Haze.
Henry Ward Ranger.
Entrance to the Harbor.
Connecticut Woods.
The Cornfield.
Bradbury's Mill Pond No. 2.
Groton Long Point Dunes.
Robert Reid.
The White Parasol.
The Mirror.
Frederic Remington (1861-1909).
Fired On.
Theodore Robinson (1852-1896).
La Vachère.
Old Church at Giverny.
William S. Robinson.
Monhegan Headlands.

- Albert Pinkham Ryder.
Moonlight.
- William Sartain.
Algerian Water Carrier.
- Walter Shirlaw (1838-1909).
Among the Old Poets.
Roses.
Water Lilies.
- Roswell Morse Shurtleff.
The Mysterious Woods.
- William Thomas Smedley.
One Day in June.
- Abbott Handerson Thayer.
Dublin Pond, New Hampshire.
- Dwight William Tryon.
November.
- John Henry Twachtman (1853-1902).
Round Hill Road.
The End of Winter.
The Torrent.
Fishing Boats at Gloucester.
- Alexander Theobald Van Laer.
Early Spring.
- Elihu Vedder.
The Cup of Death.
- Douglas Volk.
The Boy with the Arrow.
- Henry Oliver Walker.
Eros et Musa.
Musa Regina.
- Horatio Walker.
Sheepyard—Moonlight.
- Edgar Melville Ward.
The Blockmaker.
- Frederick Judd Waugh.
After a Northeaster.
Southwesterly Gale, St. Ives.
The Knight of the Holy Grail.
- Julian Alden Weir.
A Gentlewoman.
Upland Pasture.
- Worthington Whittredge (1820-1910).
Noon in the Orchard.

Carleton Wiggins.

Evening after a Shower.

The Pasture Lot.

Guy C. Wiggins.

Columbus Circle—Winter.

Irving Ramsay Wiles.

The Brown Kimono.

Russian Tea.

Frederick Ballard Williams.

A Glade by the Sea.

Conway Hills.

Alexander H. Wyant (1836-1892).

Autumn at Arkville.

The Flume, Opalescent River, Adirondacks.

Housatonic Valley.

Spring.

Cullen Yates.

Rock-Bound Coast, Cape Ann.

The Evans collection also includes an excellent series of proofs of American wood engravings, 115 in number, representing the work of Victor Bernstrom, William B. P. Closson, Timothy Cole, John P. Davis, Frank French, T. Johnson, F. S. King, Elbridge Kingsley, G. Kruell, R. A. Muller, C. A. Powell, S. G. Putnam, John Tinkey, F. H. Wellington, Henry Wolf, and Fred Yuengling.

OTHER PERMANENT ACQUISITIONS.

Nicolas Berghem (1620-1683).

Cattle Piece, Peasants, etc.

Received with the effects of James Smithson, founder of the Smithsonian Institution.

Frederic Edwin Church (1826-1900).

Aurora Borealis.

Gift of Miss Eleanor Blodgett, of New York.

R. E. W. Earl.

Portrait of Andrew Jackson in the Uniform of a Major General, U. S. Army.

Presented to the National Institute in 1844 by Maj. William H. Chase, U. S. Engineers. Received from the Institute in 1862.

John Elliott.

Diana of the Tides. A mural decoration.

Gift of Mr. and Mrs. Larz Anderson.



Antoine Etex (1808-1888).

Scene from the "Gentleman of France."

Gift of Mr. Nathan Appleton, of New York.

Harrington Fitzgerald.

The Wreck.

Gift of the artist.

Horatio Greenough (1805-1852).

Statue of Washington. Marble.

Transferred to the custody of the Smithsonian Institution
by joint resolution of Congress approved May 22, 1908.

Hamdy Bey.

Tomb of "Mahomet the Gentleman" at Broussa.

Bequest of Mrs. Elizabeth C. Hobson, of Washington, for
whom it was painted in 1884.

George Peter Alexander Healy (1808-1894).

Portrait of F. P. G. Guizot.

Painted in 1841 on the commission of American citizens
residing in Paris, and by them forwarded to President Tyler
to be hung in one of the public buildings in Washington.
Received from the National Institute in 1862.

Portrait of William C. Preston.

Portrait of President John Tyler.

These two portraits were painted for the National Insti-
tute, from which they were received in 1862.

Portrait of Col. Albert G. Brackett, U. S. Army.

Bequest of Mrs. Albert G. Brackett, of Washington.

Eastman Johnson (1824-1906).

Portrait of Mrs. Cross, of Milford, Pa.

Gift of Mrs. James W. Pinchot, of Washington.

Norwood Hodge MacGilvary.

Twilight after Rain.

Presented by Mr. Frederic Fairchild Sherman, of New
York, in memory of his wife, Eloise Lee Sherman.

Michelangelo (1475-1564).

Head of David. Plaster cast from the original.

Gift of Louis Amateis, of Washington.

Adrien Moreau.

Crossing the Ferry.

Gift of Mrs. James Lowndes, of Washington, in memory
of her father, Lucius Tuckerman.

Joseph Mozier (1812-1870).

Il Penseroso. Marble.

Transferred from the Capitol at Washington.



Arvid F. Nyholm.

Portrait of John Ericsson.

Gift of the Swedish American Republican League of Illinois.

Lucien Whiting Powell.

Grand Canyon of the Yellowstone River.

Gift of Hon. J. B. Henderson, of Washington.

Thomas Buchanan Read (1822-1872).

Portrait of himself.

Gift of Miss Maria Fassett Robinson, of Washington.

Henry Reuterdaahl.

The Combat between the Monitor and the Merrimac.

Gift of the Swedish American Republican League of Illinois.

José de Ribera (Spagnoletto) (1588-1652).

Job and His Comforters.

Presented by Dr. Robert W. Gibbes, of Columbia, S. C., in 1841, to the National Institute, from which it was received in 1862.

Max Weyl.

Indian Summer Day.

Gift of thirty Washington friends of the artist, to commemorate his seventieth birthday, December 1, 1907.

Artists unknown.

Portrait of Washington.

Bust portrait belonging with the Lewis collection of Washington relics, purchased by the Government in 1878.

Portrait of Andrew Jackson.

Deposited by the Navy Department.

LOANS.

From Mr. Ralph Cross Johnson, of Washington.

David Cox. Outskirts of a Wood.

Govaert Flinck. Madonna and Child.

Francesco Guardi. A View in Rome.

William Hogarth. Portrait of Mrs. Price.

Sir Thomas Lawrence. Portrait of Mrs. Towry.

Nicolaes Maes. A Man's Portrait.

Sir Henry Raeburn. Portrait of Archibald Skirving.

Sir Joshua Reynolds. Portrait of the Duchess of Ancaster.

George Romney. Portrait of Sir Sampson Wright.

William Clarkson Stanfield. Marine.

Richard Wilson. Italian Landscape.



From Mr. W. A. Slater, of Washington.

Jean Baptiste Camillé Corot. A Gray Day; Nymphs and Fauns.

Charles François Daubigny. Springtime.

Eugène Delacroix. Return of Columbus to Court of Ferdinand.

Narcisse Diaz. Forest of Fontainebleau; Group of Dogs; Island of the Cupids.

Jules Dupré. The Landing; Three Oaks.

Ignaz Marcel Gaugengigl. The Quartet.

Hubert Herkomer. Portrait of John F. Slater.

Meindert Hobbema. The Mill.

Madam Vigée Lebrun. Portrait of a Lady.

Louis Victor Felix Mettling. Portrait of a Boy.

Jean François Millet. The Drinking Place; Seamstresses Sewing on Shroud.

Monticelli. Female Figure.

A. Pasini. At the Barracks, Constantinople.

Raffaelli. Winter Landscape.

Rembrandt van Rijn. The Rabbi.

Theodore Rousseau. Sunset in a Wood.

Jacob Ruysdael. The Dunes near Haarlem.

Sienna School. Madonna and Child.

Constant Troyon. Horses at Watering Trough.

Alexander H. Wyant. Landscape.

From Mrs. James Lowndes, of Washington.

Pierre Marie Beyle. Fishing for Eels.

Blaise Alexandre Desgoffe. Still Life.

Mario dá Fiori. Boys and Flowers.

Jehan Georges Vibert. Preparing for the Masquerade.

From Dr. Thomas M. Chatard, of Washington.

Janssens. Portrait of Henrietta Maria.

Sir Peter Lely. Portrait of Mrs. Rous.

Thomas Sully. Portrait of Mrs. Nicholas Bosley, of Hayfields, Maryland.

From Mrs. Abercrombie-Miller, of Washington.

Eugène Verboeckhoven. Sheep.

Hillner. Alpine Landscape.

From Rev. F. Ward Denys, of Washington.

Perugino. Madonna and Child.

Guido Reni. St. Michael.

From Hon. George Peabody Wetmore, of Newport and Washington.

Constant Wauters. Versailles.

Edouard Detaille. Military Review (water color).

1913

From Miss Silvie de Grasse Fowler, of Washington.

Nicolas de Largillière. Portrait of François Paul de Grasse de Rouville, Amiral Comte de Grasse.

G. P. A. Healy. Portrait of Theodosius O. Fowler.

Benjamin West. Portrait of St. Bernard Dog, Hero.

From Mrs. John Cropper, of Washington.

Michele Gordigiani. Portrait of Mr. John Cropper; Portrait of Mrs. John Cropper.

From Mrs. Florence A. Ebbs, of Washington.

Romanelli. Esmeralda (marble).

Harriet Hosmer (attributed to). Cordelia (marble).

From the Duchess de Arcos.

Eighteen paintings by foreign artists, only a part of which have been identified, and one marble, Bacchante, by Bien Aimé.

From Mr. Julius A. Truesdell, of Washington.

Gaylord Sangston Truesdell. After the Rain; The Shepherd's Lunch; Changing Pastures; The Wayside Shrine; Moonlight at the Sheep Fold; Cows by the Sea; The Path through the Gorse; Spring Landscape.

From Mrs. Mary Peoli Maginn, of New York.

John J. Peoli. Love Conquers; Cupid Caged.

From Dr. George Reuling, of Baltimore, Md.

G. P. A. Healy. Henry Clay on his Estate, Ashland.

John Wesley Jarvis. Portrait of William Clark, the Explorer.

John Neagle. Henry Clay making his Great Speech.

Gilbert Stuart Newton. Portrait of Miss Rieman.

Charles Willson Peale. General Washington at Princeton; Portrait of General Andrew Jackson.

Rembrandt Peale. Portrait of Henry Clay; Portrait of a Lady.

Sir Henry Raeburn. English Country Squire.

P. F. Rothermel. Launching of the Brigantine.

Gilbert Stuart. Portrait of Mrs. Lloyd.

John Trumbull. George Washington at Trenton; Portrait of General Washington; Battle of Bunker Hill.

From Mr. Theodore Sutro, of New York.

Edward Moran. Thirteen historical marine paintings, as follows: The Ocean—The Highway of all Nations; Landing of Leif Erikson in the New World, in 1001; The Santa Maria, Nina, and Pinta, Evening of October 11, 1492; The Debar-kation of Columbus, Morning of October 12, 1492; Midnight Mass on the Mississippi over the Body of Ferdinand de Soto, 1542; Henry Hudson entering New York Bay, September 11, 1609; Embarkation of the Pilgrims from Southampton, August 5, 1620; First Recognition of the American Flag by

From Mr. Theodore Sutro, of New York—Continued.

a Foreign Government—In the Harbor of Quiberon, France, February 13, 1778; Burning of the Frigate Philadelphia—In the Harbor of Tripoli, February 16, 1804; The Brig Armstrong Engaging the British Fleet—In the Harbor of Fayal, September 26, 1814; Iron versus Wood—Sinking of the Cumberland by the Merrimac in Hampton Roads, March 8, 1862; The White Squadron's Farewell Salute to the Body of Captain John Ericsson, New York Bay, August 25, 1890; Return of the Conquerors—Typifying our Victory in the late Spanish-American War, September 29, 1899.

Loans of single pieces.

- J. Carroll Beckwith. The Emperor. From the artist.
 Constantino Brumidi. The Five Senses. From Miss Olivia and Miss Ida Walter, of Washington.
 W. H. Fisk. Portrait of George Catlin. From Mrs. Louise Catlin Kinney.
 Jean Baptiste Adolphe Gibert. Portrait of Henry Clay. From Mr. Watterson Stealey, of Washington.
 Edward Kemeys. Selection of his works of animal sculpture in bronze and plaster. From Mrs. Kemeys.
 Henry Hudson Kitson. Bust of Vittorio Emanuele III, King of Italy (plaster). From the artist.
 J. Van Lierus. Death Preferred. From Mrs. Frances E. Musgrave, of Washington.
 Thomas Moran.
 In the Grand Canyon of the Colorado. From Mrs. J. W. Powell, of Washington.
 From Hiawatha. From the estate of E. E. Howell.
 Murillo (copied from). The Beggars. From Mrs. Henry Wells, of Washington.
 Rembrandt (attributed to). Portrait of Rembrandt. From Mr. Benson B. Moore, of Mt. Rainier, Md.
 Francesco di Rosa (called Pacicco). Judith with the Head of Holofernes. From Mrs. Elizabeth Walbridge, of Washington.
 Augustus Saint-Gaudens.
 Standing Lincoln, reduced copy of the statue in Lincoln Park, Chicago, Ill. (bronze). From Mrs. John Hay, of Washington.
 Replica of the bust part of the same statue, full size (bronze). From Mrs. Saint-Gaudens.
 Gilbert Stuart. Portrait of Joseph Tuckerman, D. D. From Mr. Walter Tuckerman, of Washington.
 Mount Thompson. Statue of Napoleon, life size (bronze). From
 J. James W. Pinchot, of Washington.

Otho van Veen (attributed to). The Nativity. From Dr. Anton Gloetzner, of Washington.

Robert Vonnoh.

Portrait of Charles Francis Adams (full length). From Mr. Adams.

Portrait of Charles Francis Adams (bust). From Mrs. Adams.
Benjamin West. The Raising of Jairus' Daughter. From Mr. T. B. Walker, of Minneapolis, Minn.

Eduardo Zamacois. Refectory. From Miss Emily Tuckerman, of Washington.

ART TEXTILES.

Although the material which has been assembled in illustration of lace making and other textile handicraft still consists mainly of loans, through the continued interest of the ladies who have cooperated in making the exhibition successful, the collection has been allowed to remain practically intact, with interesting additions from year to year. As the importance of the collection becomes more fully recognized it is hoped that its permanence may be insured through the medium of gifts on a larger scale than heretofore. The lace exhibit now embraces a fairly connected series in respect both to the development of the industry and the varieties of laces, and also contains some important examples which from their quality and rarity form striking museum pieces. In fact, though smaller and less conspicuous in the matter of display material, the collection ranks high among the museum collections of the country. The work of the year, under the direction as heretofore of Mrs. James W. Pinchot, has related mainly to the improvement of the systematic installation and to the more complete labeling of both cases and specimens. The hall occupied by the collection continues to be one of the most attractive in the Museum.

The lace accessions of the year included a valuable piece of point d'Angleterre, presented by Mrs. William Phelps Eno, and the following loans, namely: From Mrs. John Jay White, 13 pieces of point d'Alençon, composing a wide flounce and 2 waists; from Mrs. James Maginn, of New York, 2 French caps, a Flemish collar, a pair of silk lace mitts, a handkerchief and centerpiece of Venezuelan lace, and a black Chantilly lace parasol; and from the Misses Long, an unidentified lace of the eighteenth century. An interesting oil painting, after the Dutch artist Terburg, illustrating the handicraft of the seventeenth century and entitled "The Lace Maker," presented by Miss Julia H. Chadwick, has been installed in connection with this collection.

Of embroideries and fabrics other than laces the following were received as loans: From Miss Mary H. Williams, a Spanish red velvet

cope of the sixteenth century, 3 pieces of brocade of the seventeenth century, a piece of red silk and 2 pieces of red velvet; from Miss Emily Tuckerman, 2 pieces of Louis XIV and 1 of Louis XVI embroidery; from the Rev. F. Ward Denys, a large Persian rug said to have been worked after a design by Raphael; and from Mrs. James Maginn, a small bag ornamented with beads and 4 embroidered handkerchiefs from Cuba, besides several samples for crocheting fringe. Mrs. Maginn also deposited 18 Spanish fans of the eighteenth century and 1 of the period of Louis XVI; and Mrs. James Tait Beck, of Camden, Ala., 2 late "Empire" fans.

Among miscellaneous articles placed on exhibition in connection with the textiles were a papillon ring and a figurine of an Egyptian god mounted in antique gold as a necklace, from Mrs. John Jay White; a bracelet of blue enamel and niello work on a woven gold band, from Miss Jennie M. Griswold; a gold bracelet which belonged to Mrs. Isaac Chauncy Long, from the Misses Long; and a mirror, called a "trumeau," the upper part of which frames an oil painting, from Miss Emily Tuckerman. Also placed with the textiles is a series of 57 photographs of designs of suits of armor made by Hans Holbein for the great tournament of Henry VIII, which were received as a gift from the Victoria and Albert Museum, London.

MISCELLANEOUS.

VISITORS.

The exhibition halls of the Museum are open to the public on every week day throughout the year, including holidays, and those in the new building on Sundays also. The hours are from 9 a. m. to 4.30 p. m. on week days, and from 1.30 to 4.30 p. m. on Sundays.

The total number of visitors admitted to the new building during last year was 319,806, an increase over the previous year of 37,919. Of this number, 261,636 represented the week-day attendance, and 58,170 the Sunday attendance, making the daily average for the former 836, and for the latter 1,118. At the older Museum building the total attendance was 173,858, and the daily average 555, the corresponding figures for the Smithsonian building having been 142,420 and 455, respectively. The Sunday average for the new building varied considerably at different periods, having been largest during the spring, and amounting to 3,343 for the month of May. The maximum Sunday attendance was 5,134, on May 4.

The week-day attendance at all of the buildings was very much greater in March than in any other month, as is always the case in years of presidential inauguration, the Museum being one of the principal attractions for the large crowds which gather in Washington for that occasion. During inaugural week alone, or from

March 3 to 8, inclusive, the number of visitors to the new building aggregated 31,951, a daily average of 5,325, the largest attendance on any single day having been 13,236 on March 5. The figures for each of the other buildings were about one-half as much.

The following tables show, respectively, the number of visitors during each month of the past year, and for each year beginning with 1881, when the older Museum building was first opened to the public:

Number of visitors during the year ending June 30, 1913.

Year and month.	Older Museum Building.	New Museum Building.	Smithsonian Building.	Year and month.	Older Museum Building.	New Museum Building.	Smithsonian Building.
1912.				1913.			
July.....	14,170	17,360	12,089	January.....	7,633	20,656	6,446
August.....	22,270	23,900	19,894	February.....	7,757	17,668	6,389
September.....	18,117	23,838	16,908	March.....	31,079	58,398	26,326
October.....	12,831	19,658	11,115	April.....	14,542	32,238	11,437
November.....	7,817	18,614	6,574	May.....	13,872	41,011	9,591
December.....	7,153	17,364	6,168	June.....	16,617	29,092	9,483
				Total.....	173,858	319,806	142,420

Number of visitors to the Museum and Smithsonian Buildings since 1881.

Year.	Older Museum Building.	New Museum Building.	Smithsonian Building.	Year.	Older Museum Building.	New Museum Building.	Smithsonian Building.
1881.....	150,000	.....	100,000	1898-99.....	192,471	.....	116,912
1882.....	167,455	.....	152,744	1899-1900.....	225,440	.....	133,147
1883.....	202,188	.....	104,828	1900-1.....	216,556	.....	151,563
1884 (half year).....	97,661	.....	45,555	1901-2.....	173,888	.....	144,107
1884-85 (fiscal year).....	205,026	.....	105,993	1902-3.....	315,307	.....	181,174
1885-86.....	174,225	.....	88,980	1903-4.....	220,778	.....	143,988
1886-87.....	216,562	.....	98,552	1904-5.....	235,921	.....	149,380
1887-88.....	249,665	.....	102,863	1905-6.....	210,886	.....	149,661
1888-89.....	374,843	.....	149,618	1906-7.....	210,107	.....	153,591
1889-90.....	274,324	.....	120,894	1907-8.....	299,659	.....	237,182
1890-91.....	288,426	.....	111,669	1908-9.....	245,187	.....	198,054
1901-92.....	269,825	.....	114,817	1909-10.....	228,804	50,403	179,163
1892-93.....	319,930	.....	174,188	1910-11.....	207,010	151,112	167,085
1893-94.....	195,748	.....	108,910	1911-12.....	172,182	281,887	143,134
1894-95.....	301,744	.....	105,658	1912-13.....	173,858	319,806	142,420
1895-96.....	180,505	.....	103,650				
1896-97.....	229,605	.....	115,709	Total.....	7,301,041	803,208	4,389,447
1897-98.....	177,254	.....	99,273				

PUBLICATIONS.

The publications issued during the year consisted of 4 volumes and 105 papers printed separately. The former were volumes 42 and 43 of the Proceedings, and Bulletins 79 and 81, entitled, re-

spectively, "List of North American Land Mammals in the United States National Museum, 1911," by Gerrit S. Miller, jr., and "A Synopsis of the Rotatoria," by Harry K. Harring. Of the separate papers 96 belonged to the series of Proceedings, composing all of volumes 43 and 44 and parts of volumes 42 and 45, and 9 belonged to volumes 16 and 17 of the Contributions from the National Herbarium. They are listed in the bibliography at the end of this report. The regular distribution of the above publications aggregated about 57,300 copies, while of these and former publications some 14,300 copies were supplied in compliance with special requests.

Many reports on material belonging to the National Museum or to be added to its collections are printed elsewhere than in the Museum series. They consist in part of papers, often monographic, issued by the scientific bureaus of the Government and other scientific establishments, and in part of generally brief accounts of discoveries which it is important should be published more promptly than is possible through Government channels. Several of the scientific societies offer opportunities for such urgent publication, as does also the Smithsonian Institution. Mainly, but not entirely, belonging to this class are the following papers printed in the Smithsonian Miscellaneous Collections during 1913: "New mammals from eastern Panama" and "Descriptions of new mammals from Panama and Mexico," by E. A. Goldman; "New rodents from British East Africa," "New genera and races of African ungulates" and "New races of insectivores, bats and lemurs from British East Africa," by Edmund Heller; "New mammals from the highlands of Siberia," "Description of a new gazelle from northwestern Mongolia," and "Two new mammals from the Siberian Altai," by N. Hollister; "A new vole from eastern Mongolia," by Gerrit S. Miller, jr.; "Diagnosis of a new beaked whale of the genus *Mesoplodon* from the coast of North Carolina," by Frederick W. True; "A new subspecies of cross-bill from Newfoundland," by A. C. Bent; "Description of a new African grass-warbler of the genus *Cisticola*," by Edgar A. Mearns; "Descriptions of new genera, species and subspecies of birds from Panama, Colombia and Ecuador" and "Two new subspecies of birds from the slopes of Mount Pirri, eastern Panama," by E. W. Nelson; "Descriptions of one hundred and four new species and subspecies of birds from the Barussan Islands and Sumatra," by Harry C. Oberholser; "New diptera from Panama" and "Three new species of Pipunculidæ (Diptera) from Panama," by J. R. Malloch; "New species of landshells from the Panama Canal Zone," by William H. Dall; "Report on freshwater Copepoda from Panama, with descriptions of new species," by C. Dwight Marsh; "Notes on American species of *Peripatus*, with a list of known forms" and "The crinoids of the Natural History Museum at Hamburg," by

Austin H. Clark; "Rubelzul cotton: A new species of *Gossypium* from Guatemala," "Kokia: A new genus of Hawaiian trees" and "The cotton of the Hopi Indians: A new species of *Gossypium*," by Frederick L. Lewton; "Saffordia, a new genus of ferns from Peru," by William B. Maxon; "A recent meteorite fall near Holbrook, Navajo County, Arizona," by George P. Merrill; "New York Potsdam—Hoyt-Fauna" and "Group terms for the Lower and Upper Cambrian series of formations," by Charles D. Walcott; "Notice of the occurrence of a Pleistocene camel north of the Arctic Circle" and "An extinct American eland," by James Williams Gidley; "A new dinosaur from the Lance formation of Wyoming," by Charles W. Gilmore; "The recognition of Pleistocene faunas" and "Description of the skull of an extinct horse, found in central Alaska," by Oliver P. Hay; and "A fossil toothed cetacean from California, representing a new genus and species," by Frederick W. True.

In accordance with a provision of the Legislative, Executive, and Judicial Act approved August 23, 1912, the work of wrapping, labeling, and despatching all Museum publications, previously performed by the Museum, was, on October 1, transferred to the direction of the Public Printer, and has since been conducted by the Superintendent of Documents. This change, however, has not affected the responsibility and discretion of the Museum in regard to the mailing lists, which, together with all special orders, are transmitted to the Superintendent of Documents through its office of correspondence. In addition to the publications, the editorial office also has charge of all miscellaneous printing and binding, the former including a considerable variety of work, in connection with which the labels for the collections figure most conspicuously.

LIBRARY.

The Museum library is wholly technical in character and restricted to the class of works needed for the study and classification of the collections, but owing to the great diversity of the latter it is required to cover a wide range of subjects in the sciences and the arts and industries. Originating in the gift by Prof. Spencer F. Baird, the second Secretary of the Institution, of his scientific library, it has attained considerable size and importance though never approached the standard of completeness that would make it even fairly effective; and, despite the opportunity of drawing upon several other large Government libraries and that of the Smithsonian Institution, the work of the Museum has often been seriously inconvenienced and delayed by the lack of books which are not to be found in Washington. The annual purchase fund has been inadequate to satisfy more than a very limited part of the demands. The principal resource in this

regard has consisted of the Museum's own publications, constituting an important asset for exchange, through which have been secured the publications of most of the scientific institutions of the world, and also those of many individuals. The library has likewise been fortunate in receiving a large number of donations, and while some of these have come from friends not connected with the Museum, the most constant contributors have been members of its staff. Notwithstanding these several sources of acquisition, however, there are many very necessary books published privately from year to year which, under present conditions, must continue to be classed as important desiderata.

Maintained solely for promoting the work of the Museum, the library is administered with special reference to the convenience of the staff, and besides the central rooms in which are kept all general works and those treating of two or more subjects, each division and each principal office is allowed to have in its immediate possession such of the publications relating wholly to its province as may be desired. These several branch collections, of which there are 33 at present, are known as sectional libraries. They are under the supervision of the main library, from which the books assigned to them are withdrawn as by any borrower and with the same responsibilities.

With the moving of the collections of anthropology, zoology, and geology, it was important that the books relating to the same subjects be also transferred to the new building. This has now been done, leaving the publications on the arts and industries and history in the older building, and likewise the botanical library, which is there most conveniently located for the division of plants. In view, moreover, of the more ample accommodations afforded by the new building and the fact that the larger proportion of the publications were included in the transfer, it has seemed best that the library there established should be the central one for the receipt, recording, cataloguing and distribution of all books and for all other preparatory work, and this plan has been carried out.

The equipment of the library space in the new building having been completed early in the autumn of 1912, the moving was begun about the middle of October, and, including the placing of the books on the shelves, was finished in the course of a month. While much still remained to be done in the matter of verifying and perfecting the arrangement, at no time was there any serious interruption in the use of the library or in the continuity of its relations to the sectional branches. The rearrangement and cataloguing of the publications left in the older building were also taken up and well advanced by the close of the year.

The library received 1,690 books, 2,213 pamphlets and 159 parts of volumes during last year, and contains at present 43,692 volumes and

72,042 unbound papers. There were borrowed from other Government libraries for the use of the staff a total of 4,154 titles, which came mainly from the Library of Congress, and to a lesser extent from the Department of Agriculture, the Army Medical Museum, and the Geological Survey.

The records of the library, all of which are kept in card form, comprise an accession catalogue, an authors' catalogue, a periodical catalogue, and a lending record. Seven hundred and eighty-two books, 892 complete volumes of periodicals, and 2,229 pamphlets were catalogued during the year, and the Zurich catalogue was brought up to date in the matter of classification and arrangement of the cards. The number of volumes bound for the library was 881.

The new quarters and their equipment may be briefly described as follows:

The space assigned to the library in the new building, located in the ground story of the northern section of the east range, consists of what was originally a single room, with northern exposure, 107 feet 7 inches long by 21 feet 1 inch wide, and a smaller room, facing on the east court, measuring 39 feet by 21 feet 4 inches. The former has been divided into three compartments for the book stacks, catalogue cases, and reading accommodations, while the latter is used for office purposes and preparatory work. All of the space is well lighted and ventilated, the equipment is modern and fireproof, and the facilities excellent in all respects.

The three northern compartments are separated by fireproof walls of macite, with large communicating openings. Beginning at the east, and with a uniform dimension of 21 feet 1 inch between the outer and the corridor wall, is the stack room, 52 feet 3 inches long, followed by a small reading room, 18 feet 1 inch long, and a general reading room, also containing the catalogue files, 36 feet 4 inches long. All of this area is utilized to the full height of the story, this being accomplished by the introduction of a mezzanine floor in the stack room and of galleries in the reading rooms, which are at a uniform height of 7 feet 11 inches above the ground floor. The furnishings throughout, including slotted shelf uprights with adjustable shelves, card cases, mezzanine floor and galleries, stairs and lift, are of the Art Metal Construction Co.'s standard construction, and the entire work is supported on the ground floor, being braced laterally by comparatively few connections with the walls. The material of the stacks, cases and drawers is mild cold rolled steel.

In the stack room the general arrangement of the cases is the same both below and above the mezzanine floor. Single-faced stacks occupy practically all the wall surfaces, while the body of the room is traversed north and south by double-faced stacks, with interspaces of about 3 feet. Five of these stacks are of full height, which is 7 feet

4 inches on the ground floor and 7 feet 6 inches on the mezzanine floor, while 4 alternating ones have been carried only to a height of 3 feet 6 inches, in order that their tops may serve the purpose of tables in arranging and consulting books. On the ground floor the main passageway, 4 feet 8 inches wide, is on the window side of the room, the main stacks extending thence to join those along the south wall, but the lower stacks are much shorter. Above the mezzanine the general passageway, reduced to 2 feet 9 inches in width, is on the other or south side of the room, the main stacks extending against the piers between the windows and the rails in front of them.

The stacks have a 3-inch base and 4-inch cornice. The uprights, spaced for shelves 2 feet 11 inches long, are slotted at 1-inch intervals. Besides the fixed shelf at the base, the full height stacks are estimated to carry 6 adjustable shelves, and the lower ones proportionally fewer. On this basis, the shelf capacity of the room amounts to about 3,500 lineal feet. The shelves are 12 inches wide, of No. 16 gauge steel, stiffened at front and back by smoothly turned $\frac{3}{4}$ -inch rolls shaped to receive book supports. The exposed ends of all stacks have label holders, $7\frac{1}{2}$ by 4 inches, finished in statuary bronze. The surfaces are japanned and of a dark green color. The entire construction is of the best material adapted to the purpose and the workmanship has been thorough.

In one of the alcoves is a flight of stairs and nearby it is a lift for carrying books to the upper story. The latter is operated by hand, is self-retaining and has a lifting capacity of 75 to 100 pounds. Measuring $17\frac{1}{2}$ inches square inside and 26 inches high, it is constructed of brass wire mesh on the sides and back, with wood floor and wood frame top. The shaft is enclosed with iron wire mesh. The mezzanine floor consists of steel framing covered with wired hammered glass, having the smooth side up and sand blasted to give good footing and reduce the transparency. The glass rests on angle iron which projects above it at the sides to the extent of $\frac{1}{4}$ inch to form a curb, between which and all stacks there is an opening 2 inches wide for the circulation of air. All other and larger openings, as at the windows and the galleries in the other rooms, are protected by pipe railing.

The smaller reading room, which adjoins the stack room and is designed for special study purposes, is mostly lined, both above and below the gallery, with single wall stacks of the pattern before described. The gallery, of the same construction as the mezzanine floor, is 2 feet wide beyond the cases and is reached by iron stairs. In one corner on the lower floor is a steel manuscript case, 6 feet wide, 3 feet deep and 7 feet 6 inches high, divided vertically into two compartments, each with solid steel double doors secured by means of rod locks. The other furniture of this room includes a large table.

The main reading and consulting room has also a gallery continuous with that in the smaller room and of the same width and floor construction, which extends along the three walls other than that occupied by the windows. The space above it is filled with wall book-stacks of the standard pattern and size. Below the gallery the stacks are the same on the east side, but on the south and west sides they are deepened to 16½ inches and modified to accommodate the catalogue cases. Beginning at the top of a shelf space, 1 foot 9½ inches above the floor, are the series of compartments for the cards, followed above by another open shelf space, 2 feet 4½ inches high to the under side of the gallery. The catalogue cases are, with one exception, of a size to receive 7 drawers in height and 5 in width adapted to the standard 5 by 3-inch cards. There are 8 of these cases on the south wall and 6 on the west wall, with an additional case of the same height but only 4 drawers wide. Their aggregate capacity is 518 drawers, all of which can be conveniently reached from the floor. The drawers operate on cushioned slides, and securing rods are used. They hold about 1,000 cards each. Extending along the bottom line of these cases is a continuous projecting metal shelf or rest 9 inches wide.

Each of the two windows in the room will have, attached to the frame and sill, two oak shelves, divided into low compartments, for laying out the periodicals as received pending their assignment. The room also contains two large reading tables, measuring 6 by 8 feet. The entire library space above described is provided with a very complete and convenient arrangement of electric lighting.

The office or preparatory room, which is separated from the library proper only by a corridor, contains no gallery, but is fitted up with standard cases, 7 feet 6 inches high, which occupy most of the wall space and form two stacks extending partway across the room, dividing it into three sections or alcoves. The other furnishings consist of plain office furniture and such accessories as are needed for the preparation, cataloguing, etc., of the books before they are placed on the library shelves. The aggregate length of the shelving in all four rooms is approximately 5,663 feet.

The library space in the older Museum building is being used without material change, though one of the rooms, containing 610 square feet, has been assigned to the sectional library of administration. It consists of the ground floor and two galleries of a large room adjoining the northwest pavilion, and an enclosed gallery extending along two sides of the west north range, with a total floor area of 2,814 square feet. The furnishings, which are partly of wood and partly of metal, are of old and simple patterns, but the quarters as a whole are suitable and convenient for their present purpose.

MEETINGS AND CONGRESSES.

The accommodations afforded by the new building were extensively utilized during the year for meetings, congresses and other important functions. The Anthropological Society of Washington held its regular meetings, of which there were 14 during the season, in the larger committee room, while the auditorium was used by the Washington Society of the Fine Arts for two courses of 6 lectures each and one course of 5 lectures, the latter devoted to the great masters of music; by the Spanish-American Atheneum, which is organized to encourage the study of the literature and history of Spain and Spanish America, for 5 meetings; and by the Naval War College Extension for a series of weekly lectures for the benefit of officers of the Navy and Army, which extended from the middle of January to the middle of April.

Of three notable congresses which assembled in this country during September, 1912, two held brief sessions in Washington, while the third met only here. The former were the Eighth International Congress of Applied Chemistry and the Sixth International Congress for Testing Materials, to the members of each of which a reception was given, by invitation of the Regents and Secretary of the Institution, in the exhibition halls of the new building on the evenings of September 4 and 9, respectively. The Fifteenth International Congress on Hygiene and Demography met from September 23 to 27, inclusive, and of its 9 sections 4 were accommodated in the Museum building, namely: Dietetic hygiene and hygienic physiology; Hygiene of occupations; Military, naval and tropical (colonial) hygiene; and Demography. Two joint sessions and 3 of the 4 plenary sessions were also held in the same building, the latter in the auditorium on the evenings of September 23, 24 and 25, at which the speakers were, successively, Sir Thomas Oliver, of Newcastle, England; Dr. Jacques Bertillon, of Paris, France; and Ministerialrat Dr. Zahn, of Munich, Bavaria. On the evening of the 26th a reception to the delegates and members was given in the exhibition halls, in the name of the citizens of the District of Columbia, by the District committee for the congress.

Other important meetings were as follows: By the American Philological Association, the Archaeological Institute of America and the Society of Biblical Literature and Exegesis, in joint session from December 27 to 30, 1912; by the American Farm-Management Association, on January 21 and 22, 1913; by the National Academy of Sciences, which held its annual meeting on April 15, followed by a celebration of its semi-centennial anniversary, continuing 3 days from April 22, with a reception in the exhibition halls on the first evening; by the General Federation of Women's Clubs, on April 21 and 22; by the International Kindergarten Union, which held its twentieth annual convention, accompanied by an exhibition of kinder-

garten work by the local schools, from April 29 to May 2; and by the American Surgical Association which, as one of the constituent societies of the Congress of American Physicians and Surgeons holding its ninth triennial session in Washington, had its meetings in the Museum building from May 6 to 8. The Department of Agriculture had the use of the auditorium for two conferences, one for the field men of the Office of Farm Management, from January 6 to 21; the other for the employees of the Bureau of Animal Industry in charge of the federal meat inspection service throughout the country, from June 2 to 4. A reception in honor of the Daughters of the American Revolution was held, by invitation of the Regents and Secretary, on the evening of April 12; and another, in honor of Mr. James Wilson, who had just retired as Secretary of Agriculture, was given by the employees of the Department of Agriculture on the evening of March 6.

Reference may also be made here to the ceremonies attending the unveiling of the tablet in honor of Samuel Pierpont Langley, late Secretary of the Institution, installed in the vestibule of the Smithsonian building, which took place on May 6 or "Langley Day." The exercises were held in the adjoining main hall, in which had been assembled the three successful experimental models of the Langley aerodrome and the engine built for the large machine.

The Museum, in conjunction with the Institution, participated in two important congresses abroad. One was the Fourteenth International Congress of Prehistoric Anthropology and Archeology, held at Geneva, Switzerland, from September 9 to 15, 1912, at which Dr. Aleš Hrdlička, a curator of the Museum, was a delegate. The other was the Ninth International Zoological Congress, which met at Monaco from March 25 to 30, 1913, and at which the Museum representatives were Dr. Leonhard Stejneger, head curator of biology, Dr. Charles Wardell Stiles, of the Bureau of the Public Health, and Dr. Herbert H. Field, director of the Concilium Bibliographicum, at Zürich, Switzerland.

SPECIAL EXHIBITIONS.

The models and pictures illustrating the competitive designs for the Lincoln Memorial in Washington, by Mr. Henry Bacon and Mr. John Russell Pope, referred to in the last report, remained on exhibition throughout the year; and during most of the year the Museum was allowed to display two of the interesting models belonging to the Isthmian Canal Commission, one being a relief map of the Gatun dam and locks, the other a working model of the Pedro Miguel lock.

A collection of 100 Japanese paintings of the Ukiyo-ye school, belonging to Mr. Yojiro Kuwabara, which had been shown at the Japan-British Exhibition in London in 1910 and subsequently in other European cities, were placed on view from September 21 to November 4, 1912, and attracted much attention. A number of articles belonging to the Red Cross Society, mainly illustrative of the methods and work of foreign branches, and intended to form part of an exhibition by the Society when it shall have obtained a suitable home in Washington, were turned over temporarily to the custody of the Museum, and opened up to the public on December 14.

The models of the Panama Canal were installed in the foyer on the ground floor of the new building, and the other exhibits in three of the rooms which open into it.

ORGANIZATION AND STAFF.

The active organization of the division of mineral technology was taken up on June 6, 1913, by the appointment as curator on that date of Mr. Chester G. Gilbert, who had for some time previously been the assistant curator of systematic and applied geology. Following the transfer of the collection of grasses from the Department of Agriculture, Prof. Albert S. Hitchcock, systematic agrostologist in that Department, was made honorary custodian of grasses in the Museum on October 10, 1912, and was provided with laboratory accommodations in the division of plants in order to facilitate his work and his supervision of the entire grass collection. A section of diatoms in the division of plants was first definitely recognized during the year and was placed in charge of Dr. Albert Mann, of the Bureau of Plant Industry, Department of Agriculture, who was designated honorary custodian on January 8, 1913. The Museum collection of these microscopic forms, to which Dr. Mann has given much attention, has recently, through his active interest, been raised to a standard of completeness not elsewhere excelled in this country.

Two members of the staff, Mr. L. D. Burling, assistant curator of paleontology, and Dr. J. E. Pogue, assistant curator of mineralogy and petrology, resigned during the year, the former on March 4 to enter the service of the Geological Survey of Canada, the latter on May 17, 1913, to join the U. S. Geological Survey. Mr. R. P. Tolman was appointed aid in the division of graphic arts on May 21, 1913, after a temporary service beginning on August 23, 1912, to fill the position left vacant by the resignation of Mr. E. W. Huckel on July 31, 1912.

Two naturalists, not connected with the Government service, were designated as honorary collaborators for one year each, namely, Mr. Samuel Mixter, of Boston, Mass., from April 1, and Prof. Albert M. Reese, of the University of West Virginia, from May 1, 1913.

Both were to engage in field work, contributing their collections to the Museum, the former intending to visit Alaska and if possible the neighboring coast of Siberia, the latter the Philippine Islands.

The Museum lost three members of its staff by death, Dr. Lester F. Ward, honorary associate in paleobotany, Dr. L. T. Chamberlain, honorary associate in mineralogy, and Mr. Joseph Palmer, modeler.

Dr. Lester Frank Ward was born in Joliet, Ill., June 18, 1841, and died in Washington, D. C., April 18, 1913. His collegiate education was received at Columbian, now George Washington, University. In 1881 he became an assistant geologist, and in 1888 a geologist, on the United States Geological Survey. In 1905 he left Washington to join the faculty of Brown University, Providence, R. I., of which he continued a member until the time of his decease. His connection with the Museum dated from 1882, in which year he was appointed honorary curator in charge of the collection of fossil plants, his designation being changed in 1893 to associate curator. His removal from Washington and the discontinuance of active relations with the Museum led in 1905 to his receiving the honorary title of associate, in recognition of his long and important services in building up his department.

Taking up the study of fossil plants at a time when paleobotany as a distinct science was hardly recognized, and when almost the only workers of national reputation in the subject were Newberry and Lesquereux, he rapidly attained distinction as a careful investigator, deep thinker, and patient, conscientious worker, and after the death of these pioneers he became the acknowledged leader in paleobotany in America. Besides his official reports to the Geological Survey and several papers issued by the Museum, Dr. Ward was the author of many notable contributions in that branch of scientific research, in which the philosophical trend of his mentality is fully indicated, as well as in his better-known works on ethics and sociology. The item of work, however, which will cause him to be best remembered by those who were privileged to be associated with him at the Museum is the index and bibliography of fossil plants, which he conceived and to which he contributed so much time and conscientious labor. This and the library which he accumulated in connection with it form together the one great repository of paleobotanical information in America.

Dr. Leander Trowbridge Chamberlain, born at West Brookfield, Mass., September 26, 1837, and deceased May 9, 1913, received his collegiate education at Yale University, from which he was graduated in 1863. After four years in the naval service of the United States, Mr. Chamberlain entered the theological seminary at Andover, and, finishing the course in 1869, he was ordained in the Congregational ministry the same year. Besides serving continuously as a pastor until 1890, Dr. Chamberlain was actively connected with church,

philanthropic, and social work in many capacities. He was also a founder of the Brooklyn Institute of Arts and Sciences, and a patron of, and the curator of Eocene mollusca in, the Academy of Natural Sciences of Philadelphia.

Dr. Chamberlain's relations with the National Museum arose through his marriage in 1890 with Miss Frances Lea, daughter of Dr. Isaac Lea, the eminent naturalist of Philadelphia, and one of the Museum's most generous benefactors through two distinct contributions following his death on December 8, 1886. One of these was the large and unrivalled collection of Unionidæ, or fresh-water mussels, which had not only been assembled by Dr. Lea at great expenditure of time and money, but had also been the subject of profound research by him, resulting in elaborate and standard publications. The other was a collection of gems and precious stones, sufficiently rich and varied to serve as a worthy foundation for an appropriate representation of this popular branch of mineralogy. During the short period of her married life, only 4 years, Mrs. Chamberlain, who had always taken a keen interest in the labors of her father, remained the patron of these collections, assisting in their increase and in the increase of the library relating to them. After her death, these duties were assumed by Dr. Chamberlain as of the nature of a sacred trust, which he faithfully and generously carried out during the many years that followed. His aid was not promiscuous, but was specifically directed toward the supplying of deficiencies and the strengthening of the collections where it was most needed, and it is especially interesting to note that through his contributions the Isaac Lea collection of Unionidæ has been kept much the foremost of this extensive group in the world.

In 1897 Dr. Chamberlain became honorary custodian of the collection of gems and precious stones in the Museum, and in 1905 he was designated honorary associate in mineralogy. Though long resident in New York City, his death occurred in Pasadena, Cal., and it was not until after the close of the fiscal year that information was received of the bequest in his will of a considerable sum of money, the interest of which is to be used for the increase and improvement of the two Isaac Lea collections.

Mr. Joseph Palmer, who was born in Barrow, Suffolk, England, in 1836, died in Washington on April 19, 1913. While a young man he worked for some years at the Crystal Palace at Sydenham, where he assisted Prof. B. Waterhouse Hawkins in connection with his celebrated restorations of extinct animals. In 1868 he came to this country with Prof. Hawkins, who had been commissioned to make similar reproductions for Central Park, New York, but this work being soon abandoned, Mr. Palmer found employment at the Park as taxidermist and general assistant at the Museum, and for

a time was in charge of the zoological garden. In 1873 began his connection with the National Museum, in which for a considerable period he was the only skilled preparator on the staff. His versatility and thorough knowledge of methods made him equally proficient in modeling, casting, taxidermy, and osteology, and the coloring of reproductions, and he was especially skillful in the building of animal and Indian lay-figure groups. In consequence, his services were largely availed of in the preparation and installation of exhibits for the international expositions in which the Museum participated, beginning with the Centennial Exhibition of 1876. During his later years his work was with the department of anthropology.



THE MUSEUM STAFF.

[June 30, 1913.]

CHARLES D. WALCOTT, Secretary of the Smithsonian Institution, Keeper *ex officio*.
RICHARD RATHBUN, Assistant Secretary, in charge of the United States National Museum.
W. DE C. RAVENEL, Administrative Assistant.

SCIENTIFIC STAFF.

DEPARTMENT OF ANTHROPOLOGY:

William H. Holmes, Head Curator.

Division of Ethnology: Walter Hough, Curator; Neil M. Judd, Aid; J. W. Fewkes, Collaborator; Arthur P. Rice, Collaborator.

Division of Prehistoric Archeology: William H. Holmes, Curator; E. P. Upham, Aid; J. D. McGuire, Collaborator.

Division of Historic Archeology: I. M. Casanowicz, Assistant Curator.

Division of Physical Anthropology: Aleš Hrdlička, Curator; R. D. Moore, Aid.

Division of Mechanical Technology: George O. Maynard, Curator.

Division of Graphic Arts: Paul Brockett, Custodian; Ruel P. Tolman, Aid.

Section of Photography: T. W. Smillie, Custodian.

Division of History: A. Howard Clark, Curator; T. T. Belote, Assistant Curator.

Associates in Historic Archeology: Paul Haupt, Cyrus Adler.

DEPARTMENT OF BIOLOGY:

Leonhard Stejneger, Head Curator; James E. Benedict, Chief of Exhibits.

Division of Mammals: Gerrit S. Miller, jr., Curator; Ned Hollister, Assistant Curator.

Division of Birds: Robert Ridgway, Curator; Charles W. Richmond, Assistant Curator; J. H. Riley, Aid.

Division of Reptiles and Batrachians: Leonhard Stejneger, Curator; R. G. Paine, Aid.

Division of Fishes: B. W. Evermann, Curator; Barton A. Bean, Assistant Curator; Alfred C. Weed, Aid.

Division of Mollusks: William H. Dall, Curator; Paul Bartsch, Assistant Curator; William B. Marshall, Aid; Mary Breen, Collaborator.

Division of Insects: L. O. Howard, Curator; J. C. Crawford, Associate Curator; Paul R. Myers, Aid.

Section of Hymenoptera: J. C. Crawford, in charge.

Section of Myriapoda: O. F. Cook, Custodian.

Section of Diptera: Frederick Knab, Custodian.

Section of Coleoptera: E. A. Schwarz, Custodian.

Section of Lepidoptera: Harrison G. Dyar, Custodian.

Section of Orthoptera: A. N. Caudell, Custodian.

Section of Arachnida: Nathan Banks, Custodian.

Section of Hemiptera: Otto Heidemann, Custodian.

Section of Forest Tree Beetles: A. D. Hopkins, Custodian.

Division of Marine Invertebrates: Richard Rathbun, Curator; Mary J. Rathbun, Assistant Curator; Austin H. Clark, Assistant Curator; C. R. Shoemaker, Aid; Harriet Richardson, Collaborator.

DEPARTMENT OF BIOLOGY—Continued.

Division of Marine Invertebrates—Continued.

Section of Helminthological Collections: C. W. Stiles, Custodian; B. H. Ransom, Assistant Custodian; P. E. Garrison, United States Navy, Assistant Custodian.

Division of Plants (National Herbarium): Frederick V. Coville, Curator; W. R. Maxon, Assistant Curator; P. C. Standley, Assistant Curator.

Cactaceæ, Crassulaceæ, and Miscellaneous Mexican Collections: J. N. Rose, Custodian.

Section of Grasses: Albert S. Hitchcock, Custodian.

Section of Cryptogamic Collections: O. F. Cook, Assistant Curator.

Section of Higher Algæ: W. T. Swingle, Custodian.

Section of Lower Fungi: D. G. Fairchild, Custodian.

Section of Diatoms: Albert Mann, Custodian.

Associates in Zoology: Theodore N. Gill, C. Hart Merriam, W. L. Abbott, Edgar A. Mearns, United States Army (retired).

Associates in Botany: Edward L. Greene, John Donnell Smith, J. N. Rose.

Collaborators in Zoology: D. D. Streeter, Albert M. Reese, Samuel Mixter.

DEPARTMENT OF GEOLOGY:

George P. Merrill, Head Curator.

Division of Physical and Chemical Geology (Systematic and Applied): George P. Merrill, Curator.

Division of Mineralogy and Petrology: F. W. Clarke, Curator.

Division of Paleontology: R. S. Bassler, Curator.

Section of Invertebrate Paleontology: T. W. Stanton, Custodian of Mesozoic Collection; William H. Dall, Associate Curator of Cenozoic Collection; T. Wayland Vaughan, Custodian of Madreporarian Corals.

Section of Vertebrate Paleontology: James W. Gidley, Assistant Curator of Fossil Mammals; Charles W. Gilmore, Assistant Curator of Fossil Reptiles.

Section of Paleobotany: David White, Associate Curator; A. C. Peale, Aid; F. H. Knowlton, Custodian of Mesozoic Plants.

Associate in Paleontology: Frank Springer.

DIVISION OF TEXTILES:

Frederick L. Lewton, Curator.

DIVISION OF MINERAL TECHNOLOGY:

Chester G. Gilbert, Curator.

NATIONAL GALLERY OF ART:

William H. Holmes, Curator.

ADMINISTRATIVE STAFF.

Chief of Correspondence and Documents, R. I. Geare.

Disbursing Agent, W. I. Adams.

Superintendent of Construction and Labor, J. S. Goldsmith.

Editor, Marcus Benjamin.

Editorial Clerk, E. S. Steele.

Assistant Librarian, N. P. Scudder.

Photographer, T. W. Smillie.

Registrar, S. C. Brown.

Property Clerk, W. A. Knowles.

Engineer, C. R. Denmark.

LIST OF ACCESSIONS TO THE COLLECTIONS DURING THE FISCAL YEAR 1912-1913.

[Except when otherwise indicated, the specimens were presented, or were transferred by bureaus of the Government in accordance with law.]

ABBOT, C. G., Smithsonian Institution:
11 plants from Algeria (54617).

ABBOTT, Miss GERTRUDE, Balholm, Sogn,
Norway: Skull of an elk, and skull of
a Norwegian deer (55534).

ABBOTT, Dr. WILLIAM L.: Massai orna-
ments and spears, East African swords
with their sheaths, African shields,
models of palanquins from Madagascar,
firearms, fragments of a human skull,
fragments of the headskins and hoofs of
mammals and a few skulls, received
through Miss Gertrude Abbott (55001;
55071); 289 mammals, 16 shells and 4
birds, from India (55180); approxi-
mately 475 mammals, 488 birds, 25 rep-
tiles, 10 insects, 2 marine invertebrates,
and a shell, collected by H. C. Raven
in Dutch Borneo (55611).

ABERCROMBIE, DAVID T., New York
City: Salted skins of two trout from Lac
Cassette, Rimouski County, Quebec,
Canada (54683).

ABERCROMBIE-MILLER, Mrs., Washington,
D. C.: 2 oil paintings, "Sheep," by
Eugène Verboeckhoven, 1853, and
"Alpine Landscape," by Hillner
(55186: loan).

ACADEMY OF NATURAL SCIENCES, Phila-
delphia, Pa. (through Philip P. Cal-
vert): 91 neotropical dragonflies (54316:
exchange).

ADAMS, C. C., University of Illinois,
Champaign, Ill. (through Philip P.
Calvert): 12 neotropical dragonflies
(54325: exchange).

AGRICULTURAL EXPERIMENT STATION,
Orono, Me. (See under Maine.)

AGRICULTURAL EXPERIMENT STATION,
Morgantown, W. Va. (See under West
Virginia.)

AGRICULTURAL EXPERIMENT STATION,
UNIVERSITY OF FLORIDA, Gainesville,
Fla. (See under Florida.)

AGRICULTURE, DEPARTMENT OF:

Specimen of *Pecocephalus kewensis*
from the Agricultural grounds (55155).

Bureau of Biological Survey: 8 plants,
including 3 specimens of *Hymenocallis*
coronaria, collected by A. H. Howell in
Alabama (54270; 55547); minute land
shells from the ruins of Old Panama
City, land shells representing 3 species
from Empire, Canal Zone, 112 plants
(including 11 living orchids and a
living specimen of *Cereus*) and 9 speci-
mens of fresh-water crabs, from
Panama, all collected by E. A. Gold-
man (54293; 54301; 54339; 54351; 54424;
54480); 20 living specimens of Cactaceæ
and 6 fishes, collected by Mr. Goldman
in Arizona (55457; 55471; 55577; 55626);
76 plants, including living specimens
of *Opuntia*, collected in Mississippi by
E. G. Holt (54517; 54704; 54739); 5 eggs
of noddy, *Anous stolidus*, from Porto
Rico (54530); 10 plants collected in
North Dakota by Vernon Bailey
(54581); 9 living specimens of Cactaceæ
collected in Porto Rico by Alex Wet-
more (54302; 54463); living specimen of
Mamillaria, collected in Colorado by
C. Birdseye (54302); 5 living specimens
of *Opuntia* from Louisiana and Vir-
ginia, collected by W. L. McAtee
(54634; 55511); 12 living specimens of
crayfishes, received through W. H.
Baker, Muldon, Miss. (54364); reptiles

AGRICULTURE, DEPARTMENT OF—Contd.
and batrachians from Plummer's Island, Md. (55012); types and cotypes of *Salmo nelsoni* and *Fundulus meeki*, collected in Lower California by E. W. Nelson in 1905 (55050); 21 specimens of Orthoptera (55121); 150 plants from the southern part of the United States (55268); 4 plants from Arizona (55376); 350 specimens of determined Coleoptera (55483); 3 crabs from Wallops Island, Va. (55512).

Bureau of Entomology: 297 specimens of Coleoptera and Hemiptera, determined by A. L. Montandon (54284; 54335; 54555; 54589; 54994; 55314); 17 specimens of fleas, determined by Hon. N. Charles Rothschild (54358: exchange); specimens illustrating silk-worm raising and the raw silk industry (54306); specimen of *Sceliphron spirifex* and nest, received from Prof. Robert Newstead, Liverpool School of Tropical Medicine, Liverpool, England (54672); 6 specimens of mollusks, representing 2 species, collected by A. C. Morgan at Clarksville, Tenn. (54760); 2,319 insects collected in India by R. L. Woglum (55136); 7 beetles (55403).

Entomological Laboratory, Hagerstown, Md.: A nemertean and a specimen of clam, *Venus mercenaria*, from Chesapeake Bay (54412).

Forest Service: Desiccated body of an infant, found in a cliff dwelling in the Gila National Forest, N. Mex., by a timber reconnaissance party (54495).

Bureau of Plant Industry: 12 plants from Chile, and 3 living specimens of *Opuntia* collected in Utah by H. L. Shantz (54289); 11 ferns collected in Arizona and California by E. O. Wooton (54292); 31 plants, including 4 living specimens of *Mamillaria*, collected by E. O. Wooton in Arizona and New Mexico (54635; 54908); 11 plants collected in California, mainly by Clarence Peterson (54375); specimen of living cactus collected by T. H. Kearney in Utah (54407); 19 specimens of Malvaceae transmitted by F. L. Lewton and 23 plants collected in the western part of the United States by Ivar Tidestrom (54439); 2 specimens of living

AGRICULTURE, DEPARTMENT OF—Contd.
cactus, including one of *Mamillaria vivipara*, collected by S. C. Mason in Mandan, N. Dak. (54456; 54703); a package of seeds of *Echinocactus* collected by S. C. Mason at Palm Springs, Cal. (55481); type of *Medicago arabica inermis* (54539); 80,000 mounted specimens of grasses (54541); 3 plants from Louisiana (54589); 9 packages of cactus seeds obtained by J. D. Husbands in Chile (54632); 12 plants collected in Ceylon by C. V. Piper (54675); 1,150 plants from the District of Columbia and vicinity, collected by F. H. Hillman; also 5 ferns from Ceylon (54684); living specimen of *Mamillaria fasciculata* from Arizona, collected by E. W. Hudson (54694); 12 living specimens of *Opuntia* from Arizona, collected by W. T. Swingle (54701); a set of the U. S. official cotton grades and a specimen of the vacuum tubes used in preserving the standards (54822); 127 fiber specimens (54856); 3 specimens of *Yucca* from Arizona (54858); 5 plants collected by C. D. Marsh in Arizona and Colorado (54979); type specimen of *Inodes exsul* collected by O. F. Cook in Texas (55043); specimen of *Sagittaria* collected by Frederick V. Coville in Oregon (55204); 100 plants collected in Mexico by G. N. Collins (55253); 229 plants, including 142 specimens of grasses, collected in the West Indies by A. S. Hitchcock (55267; 55493); 2 specimens of *Agave* from Ecuador, received by the Bureau through L. H. Dewey (55347); 270 plants chiefly from Montana, collected by W. W. Eggleston (55352); 2,000 specimens of grasses chiefly from the West Indies (55365); 110 plants collected in the western part of Texas by C. R. Ball (55373); specimen of *Piaropus* from Panama (55439); 6 specimens of fungi (55464).

AGRICULTURE AND TECHNICAL INSTRUCTION FOR IRELAND, DEPARTMENT OF (FISHERIES BRANCH). (See under Dublin, Ireland.)

AGUIRRE, DR. RAFAEL TEJADA, Guatemala City, Guatemala: 25 plants from Guatemala (54967).

- ALEXANDRA PARK, Manchester, England (through Robert Lamb, superintendent): 19 living specimens of *Cactaceae* (54732; 54899; 55033). Exchange.
- ALLARD, H. A., U. S. Department of Agriculture, Washington, D. C.: 4 tree-frogs (55110).
- ALLEN, ROSHAN, Washington, D. C.: Specimen of Neuroptera (55619).
- ALLNUT, CEICLE, Rockville, Md.: Young red fox (55269).
- ALSTEDS, FRANK, Wabeno, Wis.: Fungus from Wisconsin (55077).
- ALSTON, G. W., Inez, N. C. (through D. B. Sterrett, U. S. Geological Survey): An amethyst crystal from Warren County, N. C. (54960).
- AMERICAN GRANITE COMPANY, Milwaukee, Wis.: A five-inch cube of granite (55088).
- AMERICAN MUSEUM OF NATURAL HISTORY, New York City: A neotropical dragonfly, received through Philip P. Calvert (54327: exchange); 2 isopods from Patagonia (54646); implements, basketry, etc., from an island off the coast of Chile, corresponding to a similar class of relics found with the "coppered mummy" of a man in a copper mine in the same locality (54658: exchange); 6 Bolivian skulls (54932: exchange).
- AMERICAN WOOLEN COMPANY, Boston, Mass. (THE NATIONAL AND PROVIDENCE WORSTED MILLS, Providence, R. I.): A large collection of woolen and worsted fabrics and specimens illustrating the processes of yarn manufacture; also 71 photographs illustrating wool-to-cloth processes (54882).
- AMORY, COPLEY, jr., Cambridge, Mass.: Approximately 60 mammal skins and skulls and 30 fossil mammal bones, from Yukon and Alaska (54894: collected for the Museum).
- ANDREWS, D. M., Boulder, Colo.: Specimen of *Asplenium andrewsii* from Colorado (54868).
- ANDREWS, R. P., PAPER COMPANY, Washington, D. C.: 3 copies of water-marked letterheads of the R. P. Andrews Paper Company (55187).
- APPEL, W. D., Bureau of Biological Survey, Washington, D. C.: Invertebrates and fishes from Bethany Beach, Del. (54320).
- APPLETON, EBBEN, New York City: "The Star-Spangled Banner," garrison flag of Fort McHenry, Baltimore, during the bombardment of the fort by the British, September 13, 14, 1814, when it was successfully defended by Lieut. Col. George Armistead and the brave men under him (54876).
- ARABOL MANUFACTURING COMPANY, New York City: 51 samples of materials used in the manufacture and finishing of textiles (54926).
- ARIZONA, UNIVERSITY OF, TUCSON, ARIZ.: 400 plants from Arizona, received through Prof. J. J. Thornber (54353).
- ARMBRUSTER, RAYMOND, Cumberland, Md.: 2 specimens of Tertiary mammals from cave deposit near Cumberland (54610).
- ARNOLD ARBORETUM, HARVARD UNIVERSITY, JAMAICA PLAIN, MASS.: Specimen of *Thrinax* from Florida (54294: exchange).
- ARNOLD, DR. RALPH, Los Angeles, Cal.: Collection of Pleistocene, Oligocene and Eocene Tertiary fossils from various localities in Venezuela, collected by the donor and his assistants (55597).
- ARTHUR, Prof. J. C., Lafayette, Ind.: 3 living specimens of *Opuntia humifusa* from near Lafayette (54708).
- AUSTRALIAN MUSEUM. (See under Sydney, New South Wales, Australia.)
- BABCOCK, J. P., Provincial Fisheries Department, Victoria, British Columbia: 2 bottles of specimens of *Thyanassa spinifera* from the stomachs of salmon (54724).
- BAHR, ELMER H., Baguio Mountain Province, P. I.: Specimen of Lepidoptera, *Milomita coronifera* (54735).

- BAILEY, H. B., Newport News, Va.: 8 mammal skulls (54659; 54711; 55170).
- BAILEY, H. H., Newport News, Va.: 10 bird skins from Virginia (54604); 13 mammal skulls from Giles County, Va. (55560); newt from Virginia (55596); 8 skulls of mammals and 4 land shells, from Mountain Lake, Va. (55610).
- BAKER, Prof. CHARLES FULLER, College of Agriculture, University of the Philippines, Los Baños, P. I.: 2 specimens of *Selaginella*, 12 specimens (representing 2 species) of shrimps, 133 specimens of Lepidoptera, 19 parasitic Hymenoptera, and about 60 specimens of Coleoptera, all collected in the Philippine Islands (54859; 54945; 54948; 55124; 55206; 55280).
- BAKER, Dr. FRED., Point Loma, Cal.: 10 specimens, representing 4 species, of *Ampullaria* from Brazil (54625; 55057).
- BAKER, Prof. H. B., Zoological Laboratory, University of Michigan, Ann Arbor, Mich.: 32 species of land and freshwater shells from Cheboygan County, Mich. (54303).
- BAKER, HENRY D., American consul, Nassau, Bahamas (through Department of State): A large, ring-shaped specimen of sheepswool sponge; also 4 lizards from Andros Island (55169).
- BAKER, Miss M. E., Springfield, Vt.: Specimen of *Pinus sylvestris* (55441).
- BALDUS, J. G., Brookland, D. C.: Nest and 2 young of blue jay, *Cyanocitta cristata*, from the District of Columbia (54279).
- BARBER, H. S., Bureau of Entomology, Washington, D. C.: Specimen of *Hypocrella* from Maryland (54520).
- BARBER, Mrs. MARY B., Canton, Ohio: Cream satin gown and boots worn by Mrs. William McKinley at the Inaugural Ball, March 4, 1897, and a lace handkerchief and a gauze-and-pearl fan which belonged to her (54791: loan).
- BARBOUR, Dr. THOMAS, Museum of Comparative Zoology, Cambridge, Mass.: 3 amphipods, *Melita nitida*, from a cave in Cuba (54853).
- BARROTT, A. F., Owego, N. Y.: 2 human skulls from graves in Mississippi County, Ark. (55191: exchange).
- BARROW, Dr. B., Barrows Store, Va.: Batrachian, *Amphiuma means*, from Brunswick County, Va. (54558).
- BARTLETT, H. H., U. S. Department of Agriculture, Washington, D. C.: 8 specimens of *Rhus* from Michigan (55431); 11 specimens of *Laciniaria* from Alabama (55546); 60 specimens of *Quercus* from the southeastern part of the United States (55623). Exchange.
- BARTSCH, Dr. PAUL, U. S. National Museum: Specimen of yellow-billed cuckoo *Coccyzus americanus* (54573); 9 Lepidoptera and 2 Diptera, from Paris, Va. (54713).
- BASSLER, Dr. R. S., U. S. National Museum: 26 casts of type specimens, representing 13 species, from the Lower Ordovician of New Jersey (made from specimens borrowed from the New Jersey Geological Survey) (54660).
- BAUSCH AND LOMB OPTICAL COMPANY, Rochester, N. Y.: 4 photographic lenses and a compound shutter (54605).
- BEAN, BARTON A., U. S. National Museum: 2 young sturgeon, *Acipenser sturio oxyrhynchus*, from North Carolina (54639).
- BEAN, Dr. TARLETON H., Conservation Commission, Albany, N. Y.: Type specimen of *Pontinus microlepis* collected in Bermuda by L. L. Mowbray (54399); 3 specimens of *Plectrypops retrospinis* from Bermuda (54514); 3 species of fresh-water shells from the stomach of whitefish, *Coregonus labradoricus*, from Canandaigua Lake, N. Y. (54742).
- BEARSS, J. T., St. Cloud, Fla.: 9 living specimens of *Opuntia* from Florida (55456: exchange).
- BECK, Mrs. JAMES TAIT, Camden, Ala. (through Mrs. A. T. Moore, U. S. National Museum): 2 French fans, late Empire, with richly carved pearl sticks (54774: loan).
- BECKWITH, J. CARROLL, New York City: An oil painting entitled "The Emperor," by J. Carroll Beckwith (55392: loan).

- BEE HIVE ONYX MARBLE COMPANY, Grantsville, Utah: A cube of onyx marble (54556).
- BEMENT, CLARENCE S., Philadelphia, Pa. (through F. W. Clarke): A nearly complete individual of the Holbrook, Ariz., meteoric stone, weighing 1,120 grams (55301).
- BENEDICT, Dr. J. E., U. S. National Museum: Specimen of Cooper's hawk, *Accipiter cooperi*, from Woodside, Md. (55366).
- BENEDICT, J. E., jr., Woodside, Md.: Salamanders and worms from Maryland (55111).
- BENNETT, E. E., and T. J. SAUM, Seattle, Wash. (through J. M. Jessup): Beetles from northeast Alaska, on the International Boundary between Rampart House and the Arctic Ocean (54993).
- BENNETT, P. P., Toledo, Ohio: Samples of epsomite from Douglas County, Ore. (54897).
- BENT, A. C., Taunton, Mass.: 2 sets of bird eggs from Alaska, namely, northern phalarope, *Lobipes lobatus*, and fork-tailed petrel, *Oceanodroma furcata* (54712).
- BERLIN (DAHLEM BEI STEGLITZ), GERMANY, KÖNIGL. BOTANISCHER GARTEN UND BOTANISCHES MUSEUM: Photograph and fragment of the type of *Davallia flexuosa* from Martinique (54538); 2 specimens of *Lycopodium* from Costa Rica (54921); 281 specimens of ferns (54969); fragment of the type of *Lycopodium callitrichaefolium* (55086); specimen of *Cereus wittii* from Manaus, Brazil (55422). Exchange.
- BETHEL, E., Denver, Colo.: 4 adults and 3 larvae of honey ants (54868).
- BEZZI, Prof. Dr. M., Turin, Italy: 49 specimens, representing 26 species, of Trypetidae (54989: exchange).
- BICKHARDT, HEINRICH, Cassel, Germany: 2 histrid beetles, *Notodoma formosum* and *Sternocalis arachnoides* (55489: exchange).
- BIGLOW, Capt. A. B., Eckley, Ore.: 10 specimens of the nine-spined stickleback, *Pungitius pungitius*, from a lake on the coastal plain of the Arctic Ocean (54904).
- BLANKINGSHIP, Dr. O. F., Richmond, Va.: Annelid, *Rhynchobolus dibranchiatus* (55484).
- BLYTHE, W. B., Meeker, Colo. (through T. W. Stanton, U. S. Geological Survey): 8 concretions from Colorado (55100).
- BOLLMAN, H. C., Smithsonian Institution: 2 specimens of *Phoradendron* from Maryland (54922).
- BONAPARTE, PRINCE ROLAND, HERBARIUM OF, Paris, France (through C. Belhatte): Part of the type of *Lycopodium barbatum* from Costa Rica (54823: exchange); 128 ferns from various localities (55235: exchange); 200 plants from Mexico (55235).
- BOSTICK, EARL, Goulds, Fla.: Spider, *Acrosoma gastracantha* (54433).
- BOTANIC GARDENS. (See under Sydney, New South Wales, Australia.)
- BOTANISKA MUSEUM, UPSALA UNIVERSITETS. (See under Upsala, Sweden.)
- BRACKETT, Mrs. ROSE F. (through the American Security and Trust Company, executor, Washington, D. C.): Portrait, in oil, of Col. Albert G. Brackett, U. S. Army, by G. P. A. Healy (54940: bequest).
- BRAENDLE, FRED J., Washington, D. C.: A catholic rosary made from the seeds of the Kentucky coffee bean, *Chionanthus virginica* (54753).
- BRANDEGEE, T. S., University of California, Berkeley, Cal.: 33 plants, including some ferns, from Mexico (54567; 54806; 55078); 327 plants collected in Mexico by C. A. Purpus (55310: purchase).
- BRANNER, Dr. J. C., Leland Stanford Junior University, Stanford University, Cal.: 4 species of marine shells collected by Olaf Jenkins on the Stanford Expedition of 1911, at Ceará Mirim, State of Rio Grande do Norte, Brazil (54762).

- BREMER, W. M., Carnesville, Ga.: Bannerstone of pagodite flaked with mica and specks of iron rust (54777: purchase).
- BRENNER, Dr. F. T., Quincy, Ill.: Specimen of slug, *Limax flavus* (54985).
- BREMLEY, C. S., Raleigh, N. C.: Larva of a salamander, *Gyrinophilus porphyriticus* (54355); 5 salamanders, *Ambystoma opacum*, and 1 lot of eggs, from North Carolina (54721: purchase); salamanders, 2 of *Spelerpes ruber schencki* (one a type), 1 of *S. ruber*, 2 of *Plethodon metcalfi* (one a type), and 1 of *P. glutinosus* (54824); 4 specimens of Lepidoptera (55406).
- BRISTOW, JOSEPH Q., Washington, D. C.: 100 specimens of Ordovician fossils from Kentucky (54961); engraving entitled "The Monarch of the Glen," after Sir Edwin Landseer, R. A., engraved by Richard Dudensing (55188); 110 specimens of recent shells, 5 rock specimens (veins and jointing), 2 Cuban mango seeds, and 2 bullets from Civil War battlefield (55195).
- BRITISH MUSEUM (NATURAL HISTORY). (See under London, England.)
- BRITTON, Dr. W. E., Agricultural Experiment Station, New Haven, Conn.: 7 adult sawflies and a number of sawfly larvae (54468).
- BROWN, C. G., Miss JULIA G. BROWN and Miss KATHERINE BROWN. (See under Mrs. Mary J. Roach.)
- BROWN, E. J., U. S. National Museum: 5 specimens of salamander, *Diemictylus viridescens*, from Sullivan County, N. Y. (54508); skin of Blackburnian warbler, *Dendroica fusca*, from Virginia (54532); skin of Tennessee warbler, *Vermivora peregrina*, from Florida (55020).
- BROWN, PHILIP G., Portland, Me.: Specimen and photograph of *Ulmus campestris* (54430).
- BRYAN, Maj. HARRY S., Mexico, Mexico: 11 Mexican antiquities and 12 specimens of Mexican weaving and beadwork (54645: loan); a small painting of a saint, on canvas backed with wood and inlaid with pearl shells (54746); Mexican ornaments and implements of pottery and stone; also blankets and other articles of weaving, etc. (54984: loan); a collection of 83 articles including Mexican crosses, a reliquary, amulets, figures, etc., and a stone carving of a Mexican deity (55388: loan); 2 silver extreme unction boxes each in the form of a cross, with chain, buckskin beaded coat, pottery stamp, 2 jadeite carvings, black stone carving, shell carving, and a silk hand-knit purse (55522: loan).
- BUCKINGHAM, Mrs. B. H. (See under Miss Isabel C. Freeman.)
- BUDAPEST, HUNGARY, HUNGARIAN NATIONAL MUSEUM, BOTANICAL SECTION: 100 plants from Hungary (Flora Hungarica Exsiccata, Cent. I.) (55256: exchange).
- BURN, J. W., Midville, Ga.: Specimen of *Manfreda tigrina* from Georgia (55557).
- BURDEN, Miss KATHERINE, Washington, D. C.: 100 specimens of *Vallonia* from the District of Columbia (54624).
- BURDETTE, SAMUEL O., Mount Airy, Md.: 3 tree frogs from Maryland (54395); mammals from Maryland, including 7 skins with skulls (54665).
- BUREAU OF EDUCATION. (See under Manila, P. I.)
- BUREAU OF SCIENCE. (See under Manila, P. I.)
- BURNHAM, W. H., York, Pa.: Albino bobwhite, *Colinus virginianus* (54470).
- BUSH, B. F., Courtney, Mo.: 359 plants, chiefly from Missouri (55573: purchase).
- BUSHNELL, D. I., jr., Charlottesville, Va.: Hematite hammer from the vicinity of St. Louis, Mo. (54392); photographs of 3 ancient carved Mexican atlatis, 2 of which are in the Anthropological Museum, Florence, Italy, and the other in the Kircheriano Museum, Rome, Italy (55031); woven bag of the Winnebago Indians of Nebraska (55391); archeological objects including stone and bone implements, shell beads, pottery

BUSHNELL, D. I., jr.—Continued.

vessels, fragments of large pottery dishes and two human skulls, from St. Genevieve, Mo. (55593: collected for the Museum).

BUTTON, FRED L., Oakland, Cal.: *Cypræa*, representing 3 species, from the Eocene Tertiary of Victoria, Australia, collected by W. T. Bednall (54847).

CAILLET, Dr. J. H., Vesoul, Haute Saône, France: A fossil crab from the Mesozoic rocks of France (54547).

CALCUTTA, INDIA, GEOLOGICAL SURVEY OF INDIA: 14 specimens of laterite (55555: exchange).

CALCUTTA, INDIA, INDIAN MUSEUM: 4 specimens of Tenthredinidæ (54736).

CALIFORNIA, UNIVERSITY OF, Berkeley, Cal.: 2166 plants chiefly from California and Montana (54272); 12 ferns from Mexico (54676). Exchange.

CALVERT, Dr. PHILIP P., Academy of Natural Sciences, Philadelphia, Pa.: 54 neotropical dragonflies (54322: exchange); 78 dragonflies from various localities, including Borneo (54330).

CAMBRIDGE, ENGLAND, UNIVERSITY BOTANIC GARDEN: 3 living specimens of *Opuntia xanthostemma*, 4 of *O. monacantha* and 4 of *O. cantabrigiensis* (54696: exchange).

CAMBRIDGE, MASS., MUSEUM OF COMPARATIVE ZOOLOGY: 36 neotropical dragonflies, received through Dr. Philip P. Calvert (54328: exchange); specimen of *Palæmonetes eigenmanni* (54373); 7 mammals from China (54590: exchange); 44 bird skins from the Altai Mountains, Siberia, collected on the expedition of Prof. Theodore Lyman (55085: exchange).

CAPRON, Mrs. ALLYN, sr., Fort Myer, Va.: Medal and button of the Aztec Club, U. S. Army, 1847, bronze medal commemorative of the 50th anniversary of the Aztec Club, October 13, 1897, and medal and button of the Order of Indian Wars of the United States, which belonged to Capt. Allyn Capron, First U. S. Artillery (55189: loan).

CARNEGIE HERO FUND COMMISSION, Pittsburgh, Pa.: Titanic memorial, consisting of the gold medal awarded by the Commission and of a bronze tablet supporting it, bearing the resolution adopted by the Commission, with reference to the acts of heroism performed in connection with the sinking of the S. S. *Titanic* (54893).

CARNEGIE INSTITUTION OF WASHINGTON: 52 living specimens of Cactaceæ from Walter Mundt (54410); 37 living specimens of Cactaceæ from California (54411, 55509, 55548, 55576), 3 living specimens of *Sedum* from Santa Catalina Mountains, Ariz. (54731), and 3 living specimens of Cactaceæ from Arizona (55278), all collected by Dr. D. T. MacDougal; 20 living specimens of *Opuntia*, collected by Dr. MacDougal and Dr. W. A. Cannon in California (55473, 55509); 450 archeological objects, mainly from a cave in Washington County, Md., collected by J. D. McGuire prior to 1905 (54446); 199 archeological specimens, mainly from an aboriginal quarry site in Carter County, Ky., collected by Gerard Fowke prior to 1905 (54447); 32 specimens of madreporarian corals from Florida Keys, transmitted by the Marine Biological Laboratory at Dry Tortugas, through Dr. T. Wayland Vaughan (54481); 465 plants, including living specimens of Cactaceæ, from Kansas and Colorado (54633, 54702), and 17 living specimens of Cactaceæ from Europe (54705), all obtained by Dr. J. N. Rose; 9 living specimens of *Opuntia*, collected by A. Ruth in the northeastern part of Texas (54700); 3 living specimens of Cactaceæ, received from the New York Botanical Garden (54733); 12 living specimens of Cactaceæ, collected by Mrs. Irene Vera near San Luis Potosi, Mexico (55039); 35 photographs illustrating results achieved in lines of investigation carried on under the direction of Prof. George E. Hale, Mount Wilson Solar Observatory, Pasadena, Cal., and transmitted by that observatory (55092); 25 living specimens of Cactaceæ, collected by Padre

CARNEGIE INSTITUTION OF WASHINGTON—Continued.

- M. Fuertes near Barahona, Santo Domingo (55272); 10 living specimens of Cactaceæ, collected in the Grand Canyon of the Colorado, Ariz., by Dr. Forrest Shreve (55620).
- CARNEGIE MUSEUM, Pittsburgh, Pa. (through Philip P. Calvert): 38 neotropical dragonflies (54324: exchange).
- CARPENTER, WILLIAM D., Salisburypoint, Amesbury, Mass.: 10 bird skins from Sayre, Pa. (54368); bat, *Myotis lucifugus* (54542).
- CARTER, N. E., Elkhorn, Wis.: 3 fake specimens, representing a hematite plummet from St. Charles County, Mo., a hematite ceremonial from Indiana or Missouri, and a copper fishhook from Wisconsin (55531).
- CARTER, RALPH E., Naskeag, Me.: One skull each of red fox, weasel, porcupine, and rabbit (54367: purchase).
- CASE, Mrs. F. E., Canton, Ohio: Specimen of *Monotropa* from North Carolina (54376); 66 plants from Ohio (54619; 54740).
- CATLIN, Mrs. ROBERT, New York City (through Brig. Gen. William H. Forwood, U. S. Army, retired): Skull of a "Flathead" Indian (55523).
- CELESTINE, Brother, Ancon, Canal Zone: 105 plants from Panama (55017; 55252).
- CENTURY COMPANY, New York City: 36 copies of the decorations by Frank Vincent Du Mond for "The Grapes of Eshcol," published in the "Century," November, 1912. Rubber offset work (55606).
- CHADWICK, Miss JULIA HALSTED, Washington, D. C.: An oil painting entitled "The Lace Maker," after Terburg (55528).
- CHAFFEY, ELSWOOD, Lerdo, Durango, Mexico: 12 living specimens of Cactaceæ from Mexico (54269).
- CHAILLAUX, J. BRUCE, Orleans, Ind.: 2 salamanders from Indiana (55492).
- CHAMBERS, B. L., U. S. National Museum: Winter wren, *Nannus hiemalis* (55249).
- CHAMPLAIN, A. B., Harrisburg, Pa.: 60 specimens of Hymenoptera and 3 specimens of Coleoptera (54990).
- CHANDONNET, Rev. Z. L., Perham, Minn.: 13 plants from various localities (54438); 33 plants from Minnesota (54448; 54653).
- CHANUTE, LEON F., Shreveport, La.: Specimen of walking-stick, *Diapheromera femorata* (55024).
- CHAPMAN, Mrs. E. M., Washington, D. C.: Chapeau given by Lieut. Gen. Winfield Scott, U. S. Army, to Brevet Maj. Gen. Edward Davis Townsend, U. S. Army (54369); a white kid glove of the style worn by those who entertained Gen. Lafayette in Boston during his visit to the United States in 1824-25 (54393).
- CHAPMAN, ROBERT H., Washington, D. C.: Specimens of chalcedony from Brighton, England, and agate pebbles from Devon River, Scotland (54866).
- CHASE, Mrs. AGNES, Bureau of Plant Industry, Washington, D. C.: 11 plants from the eastern part of the United States (54534).
- CHASE, BENJAMIN F., American consul, Leeds, England: An Irish $\frac{1}{4}$ penny of the time of James I (1603-1625); Irish $\frac{1}{4}$ penny of the time of Charles I (1625-1648), found under the castle ruins at Knaresborough, Yorkshire, England (55507).
- CHATARD, Dr. THOMAS M., Washington, D. C.: Portrait of Henrietta Maria, by Janssens; portrait of Mrs. Rous, by Sir Peter Lely; and portrait of Mrs. Nicholas Bosley, of Hayfields, Md., by Thomas Sully (55415: loan).
- CHEESEMAN, W. C., Slippery Rock, Pa.: 2 plants from Pennsylvania (54540).
- CHEKAL, F. C., Holbrook, Ariz.: 4 meteoric stones from a fall of July 19, 1912, near Aztec, 6 miles east of Holbrook (54451).

- CHENEY BROTHERS, New York City: Silk fabrics, raw silk, and specimens illustrating processes in the manufacture of spun silk yarn (55080).
- CHETWOOD, ROBERT E., New York City: Pair of telegraph-pole climbers used prior to 1848 (55236).
- CHUCK, THOMAS, Toledo, Iowa: Sacred bundle of the Fox Indians, collected by Dr. Truman Michelson (55002: purchase).
- CHUNG, Dr. W. F., Chinese Legation, Washington, D. C.: Bat, *Eptesicus* (55093).
- CLAGUE, W. H., Kalispell, Mont.: Moth, *Lychnosea helviolaria* (54420).
- CLAPP, GEORGE H., Pittsburgh, Pa.: 28 specimens of *Polygyra andrewsi* from Roan Mountain, N. C. (55158).
- CLAPP, W. F., Museum of Comparative Zoology, Cambridge, Mass.: About 100 specimens, representing 10 species, of marine shells from Sanibel Island, Fla. (54621).
- CLARK, AUSTIN H., U. S. National Museum: 99 bird skins from various localities (54561); specimen of *Melitta superba* from Newtonville, Mass. (54991); specimen of *Peripatus* (*Epiperipatus*) *trinidadensis* and one of *P. (Peripatus) juanensis* (55317).
- CLARK, HERBERT A., U. S. National Museum: Ruby-throated hummingbird, *Archilochus colubris* (54500).
- CLARK, HERBERT E., Jaffa Gate, Jerusalem: 19 sections of two flint sickles found in the débris of Ancient Gezer, Palestine (55598).
- CLARK, Miss MAY, Washington, D. C.: Woven belt of a Pueblo woman (55142: purchase).
- CLARKE, Dr. F. W., U. S. Geological Survey, Washington, D. C.: Specimen of corundum showing parting (54578).
- CLARKE, J. PAUL, West Palm Beach, Fla.: 2 specimens of "horsehair worms," *Gordius* (54749).
- CLELAND, Prof. H. F., Williams College, Williamstown, Mass.: Specimen of calcite coated with quartz (54668: exchange).
- CLEMENTS, CHARLES, Boston, Mass.: A five-inch cube of Killarney green granite (54546).
- COCHRANE, C. R., Lakeview, Idaho: Moth, *Samia rubra* (55544).
- COCKERELL, Prof. T. D. A., University of Colorado, Boulder, Colo.: 9 specimens of Hymenoptera and 1 of Lepidoptera, including cotypes of 4 species of Hymenoptera (54387); 38 plants from New Mexico (54405; 54890); 5 living specimens of *Opuntia* from New Mexico, and 2 photographs (54533); 7 living specimens of *Opuntia* from near Boulder (54706); 50 insects from the United States and Central America (54719); 9 living specimens of *Opuntia* (54900); 5 fossil insects, including 3 type specimens (55074); 31 insects (55274); 3 type slides of parts of *Peripatus biolleyi betheli* (55316); about 145 insects on 20 slides, 11 of the latter being type specimens (55370); type specimen of *Pseudomasaris vespodides robertsoni* (55123); microscopic slide with jaw and radula, type of *Philomycus secretus* from North Carolina (55329).
- COCKERELL, Mrs. T. D. A., Boulder, Colo.: Type specimen of fossil bee (54397).
- COLE, H. E., Baraboo, Wis. (through Charles D. Walcott): A specimen of the fossil worm burrow, *Arenicolites woodi* (54669).
- COLEGIO DE SAN IGNACIO, Medellin, Colombia: 200 plants from Colombia (55076: exchange).
- COLES, RUSSELL J., Danville, Va.: Fishes from Cape Lookout, N. C. (54435).
- COLLEGE OF MINES. (See under Leoben, Styria, Austria.)
- COLLINS, FRANK S., Malden, Mass.: 50 specimens of algæ from North America, Phycotheca Boreali-Americana, Fascicle 38 (55061: purchase).

COLORADO, UNIVERSITY OF, Boulder, Colo.: 3 plants collected in New Mexico by W. W. Robbins (55374).

COMEAU, N. A., Godbout, Quebec, Canada: Specimen of holothurian, *Cucumaria frondosa*, from Godbout (54758).

COMMERCE, DEPARTMENT OF:

Bureau of Fisheries: 2 specimens of Medusæ from the coast of Maine (54362), a keg of jellyfishes from the mouth of Casco Bay (54766), a box of jellyfishes and pteropods from the Gulf of Maine (55072), 28 vials and bottles of invertebrates (55618), and 2 boxes of plankton specimens comprising mollusks and other invertebrates from the Gulf of Maine (55165), collected by the *Grampus* during the summer of 1912 and received through Dr. H. B. Bigelow. Head and tail of bottle-nosed whale, type of *Mesoplodon mirum*, new species, from Bird Island Shoal, Beaufort Harbor, N. C. (54403); large collections of types and paratypes of fishes, collected in 1906 in Japan and the northern Pacific by the *Albatross*, a few types of fluvial fishes from California, and a specimen of stomatopod from Japan (54484); 108 skeletons of birds and 3 skeletons of the house mouse, from St. Paul Island, Pribilof Group, Alaska (54504); 14 boxes of miscellaneous specimens of mollusks and 154 packages of marine invertebrates, collected on the *Albatross* cruise to Mexico in 1911 (54576; 54588); a full-length pastel portrait of Prof. Spencer F. Baird, by D. E. Collins (54609); part of the type specimen of *Primnodendron superbum*, collected during the cruise of the *Albatross* in the northwest Pacific in 1906 and described by Prof. C. C. Nutting (54627); 4 boxes of echinoids, asteroides, etc., from the Pacific Ocean, and a figured specimen of *Heterocentrotus mammillatus* from Honolulu, collected by the *Albatross* and described by Dr. Hubert Lyman Clark (54656); 2 crustaceans taken from *Phallusia* at Station 2945, southern California, cruise of the *Albatross* in 1904 (54674); 2 frogs from Alaska, collected by Lee R. Dice, deputy warden, Alaska Fisheries Service (54745); 167 lots of ascidians col-

COMMERCE, DEPARTMENT OF—Contd.

lected by the U. S. Fish Commission from 1871-1887, inclusive, named by Dr. W. G. Van Name, and formerly in the custody of Prof. A. E. Verrill (54773); mammals, fishes, invertebrates, and plants, from St. Paul Island, Alaska, collected in 1910-1912 by M. C. Marsh and W. L. Hahn (54778); 348 mounted slides of Foraminifera from the Philippine cruise of the *Albatross*, 1907-1910, received through Dr. Joseph A. Cushman (54783); 700 vials of Schizopoda collected by the *Albatross* in 1899-1900 and 1904-1905 and described by Dr. H. J. Hansen in Memoirs of the Museum of Comparative Zoology, Vol. 35, No. 4, July, 1912 (54843); 6 parasitic isopods collected in Japan by Dr. Jordan and Dr. Snyder (54892); the type and 11 additional specimens of a flounder, *Pseudopleuronectes dignabilis*, collected by steam trawlers on Georges Bank, through the courtesy of John R. Neal (54959); skin of a large California sea bass, *Atractoscion nobilis*, collected near Quadra Inlet, opposite Mary Island, Alaska (55016); 6 types of jellyfishes collected by the *Albatross* in the northwest Pacific in 1906 (55072); mammals and birds from Celebes, Borneo, etc., collected by Roy C. Andrews on the *Albatross* expedition of 1909-1910 and received through the American Museum of Natural History (55162); type and paratype of *Hadropterus sellaris* from Swan Creek, Md. (55166); a series of 137 bird eggs and 2 nests from the Pribilof Islands, collected by James Judge and M. C. Marsh in 1911 and 1912 (55190); 986 specimens of echinoderms (including 5 type specimens) collected by the *Albatross* on the west coast of Mexico in 1911 and described by Dr. H. L. Clark (55292; 55337); 2 parkas obtained by deputy fur warden G. Dallas Hanna from Indians near Bethel, Alaska (55389). (See under Smithsonian Institution, Smithsonian Biological Survey of the Panama Canal Zone.)

Bureau of Foreign and Domestic Commerce: Samples of foreign fibers, yarns,

- COMMERCE, DEPARTMENT OF—Contd.
textiles, etc., and a sample of Mexican ocotillo wax, collected by American consuls and special agents of the Department of Commerce (55643).
- Coast and Geodetic Survey*: About 45 skins and skulls of mammals and a few birds and plants, collected by the Alaska Boundary Commission in northern Yukon and Alaska and received through Thomas Riggs, jr. (54907).
- COMMERCIAL MUSEUM, Philadelphia, Pa.: Wood samples and specimens of raw silk (54594).
- CONGRESS, LIBRARY OF. (See under Return Jonathan Meigs, No. 4.)
- CONSERVATION COMMISSION, Albany, N. Y. (through Tarleton H. Bean): 21 specimens of *Unio complanatus* from New York (54614); collection of white-fishes, ciscoes, etc.; also a leech, *Hemopsis marmoratus*, found parasitic on one of the fishes (55154); fishes, snails, crustaceans, and amphibian eggs (55581).
- CONZATTI, Dr. C., Oaxaca, Mexico: 9 living specimens of Cactaceae from southern Mexico (54461); fruit of plant from Cerro de Tlacolulu, Mexico (54594); living specimen of *Mamillaria karwinskiana* from Mexico (54628); 20 living specimens of Cactaceae from the southern part of Mexico (54709; 55550: exchange); 11 living specimens of Cactaceae (54734; 55040: exchange); 14 specimens of Cactaceae from Mexico (55429: exchange); 13 specimens (2 living) of Cactaceae from Mexico (55476).
- COOK, O. F., U. S. Department of Agriculture, Washington, D. C.: Specimen of *Tomocychus gealii* from Guatemala (54357); 177 plants from Costa Rica (54957).
- COOLEY, Mrs. C. C., Baltimore, Md.: Waistcoat worn by C. C. Cooley at a reception given in Dayton, Ohio, to William Henry Harrison, 1840 (54727).
- COOLDGE, Miss HELEN E., Washington, D. C.: 3 Lowestoft plates and 2 East India cups (Chinese) (55116); cup and saucer of Spode ware (England) (55117: loan).
- COPENHAGEN, DENMARK, UNIVERSITETS BOTANISKE MUSEUM: Specimen of *Lycopodium* from Brazil (55062: exchange).
- COPENHAGEN, DENMARK, UNIVERSITETS ZOOLOGISKE MUSEUM: Specimen of *Raja hyperborea* (54418).
- COPP, FRANCIS W., Meredith, N. H.: Crayfish from Lake Winnipissaukee (55453).
- CORN PRODUCTS REFINING COMPANY, New York City: 34 specimens of corn products (54818).
- CORREYON, H., Geneva, Switzerland: Living specimen of *Opuntia xanthostemma* and one of *O. rhodantha*, with seeds (55458: exchange).
- COSTA RICA-PANAMA BOUNDARY ARBITRATION COMMISSION, San José, Costa Rica: Fossils from the Tertiary of the Canal Zone, collected by D. F. MacDonald (54599: collected for the Museum).
- COTTMAN, Mrs. J. HOUGH. (See under Mrs. John Southgate Tucker.)
- COWDRY, N. H., Waterford, Ontario: 30 specimens of Canadian Silurian and Devonian fossils (54810).
- COWLES, HENRY T., Rio Grande, P. R.: 21 ferns from Porto Rico (55480).
- CROFT, SAMUEL M., Library of Congress, Washington, D. C.: A collection of South American butterflies (54870).
- CROOKES, Sir WILLIAM, London, England (through George F. Kunz): A spinthariscope (55411).
- CROPPER, Mrs. JOHN, Orleans, France: A bronze cannon used during the War of the American Revolution, together with the carriage for the cannon (54996).
- CROSBY, C. R., Cornell University, Ithaca, N. Y.: Male and female paratype of *Eurytoma rhois* (54869).
- CULBERTSON, GLENN, Hanover College, Hanover, Ind.: Fossil from Jefferson County, Ind. (54361).
- CULIN, STEWART. (See under Baron Sengé.)

- CUMMINGS, Mrs. S. E., Washington, D. C.: A collection of laces, brocades, card-cases, costumes, jewelry, fans, etc. (55589).
- CUSHMAN, Mrs. ALLESTON S., Washington, D. C.: Remains of a clasp worn by Mrs. Sarah Scott Siddons while playing in "Macbeth," presented to Miss Charlotte Cushman by Mrs. Fanny Kemble (55335: loan).
- CUTLER, H. S., Kanab, Utah: Specimen of velvet ant, *Dasyneutilla gloriosa* (55022).
- CUTLER, W. E., Brooks, Alberta, Canada: Distal half of femur, in 3 pieces, and portion of tibia of a fossil reptile (54715).
- DAHLEM BEI STEGLITZ, KÖNIGL. BOTANISCHER GARTEN UND BOTANISCHES MUSEUM. (See under Berlin, Germany.)
- DALL, Dr. WILLIAM H., U. S. Geological Survey, Washington, D. C.: 31 photographs of natives of southern India, collected by the Rev. C. H. A. Dall (54764); framed photographs, oil paintings and water colors (55214); photographs representing 28 ethnological subjects and 97 European views (55336).
- DANIEL, J. W., Washington, D. C.: A pair of pistols and a "C. S. A." single-action revolver with holster and belt (55095: loan).
- DAVIDSON, Dr. A., Los Angeles, Cal.: Specimen of *Brassica* from California (54380).
- DAVIDSON, Capt. A. H., U. S. Army, Anapra, N. Mex.: Skin of white-faced glossy ibis, *Plegadis guarana*, in immature plumage (54585).
- DAVIS, ARCHIBALD, Bayard, N. Mex.: 3 pieces of opal in rhyolite (55224).
- DAY, BEN, INC., New York City: Ben Day machine for rapid shading, etched plates produced with the aid of the machine, and specimens of Ben Day rapid shading medium work from the plates, showing progressive stages of production of color design (55416).
- DEAM, C. C., State Board of Forestry, Indianapolis, Ind.: 4 plants from Indiana (55210: exchange).
- DE HAVEN MANUFACTURING COMPANY, Brooklyn, N. Y.: 6 lots of sample ring travelers for spinning frame (54453).
- DENNISON, W. E., San Francisco, Cal.: Specimen of roscelite from Uniontown, Cal. (54493).
- DENSMORE, Miss FRANCES, Red Wing, Minn.: Collection of Chippewa Indian ethnological objects (55524: purchase).
- DENTS, Rev. F. WARD, Washington, D. C.: 2 oil paintings, "Madonna and Child" by Perugino and "Saint Michael" by Guido Reni; also a Persian rug said to be after a design by Raphael (54980: loan).
- DEPARTEMENT VAN DEN LANDBOUW. (See under Paramaribo, Surinam.)
- DE SELM, ARTHUR W., Kankakee, Ill.: Specimen of *Sphaeralcea* from Illinois (54807).
- DEVOR, E. H., Mercersburg, Pa.: Ring sundial bearing the name of the maker and the date 1640 (55066: purchase).
- DICKINS, Mrs. F. W., Washington, D. C.: Collection of plates, pitchers, etc., with historical scenes (55150: loan); Pomo Indian basket (55259).
- DINSMORE, JOHN E., The American Colony, Jerusalem, Palestine: 70 "Bible plants" from Palestine (54381: purchase).
- DISBROW, Dr. WILLIAM S., Newark, N. J.: 13 specimens of zeolites and one of leucophenicite, from New Jersey; and 25 concretions from Windsor, Conn. (54492: exchange); photograph of a group of uncut diamonds (54811).
- DODD, ALAN P., Nelson, Cairns, North Queensland, Australia: 10 Coleoptera from Australia (55279).
- DOLBEAR, C. E., Berkeley, Cal.: 4 crystals of halite, 1 of thenardite, and 2 of hankite, from Searles Lake potash deposit, San Bernardino County, Cal. (55069).

- DOMINION MARBLE COMPANY, LIMITED, Montreal, Quebec, Canada: A six-inch cube of marble (54286).
- DOTY, CHARLES E., Hamilton, Ohio: About 300 negatives of Cuban and Filipino subjects (54342).
- DOUGLASS, WILLIAM B., General Land Office, Washington, D. C.: Collection of cliff-dwelling material from the Navaho National Park, Ariz. (55395: loan).
- DRAPER COMPANY, Hopedale, Mass.: Old loom reed; and self-threading shuttle, model 933 (55105).
- DUBLIN, IRELAND, DEPARTMENT OF AGRICULTURE AND TECHNICAL INSTRUCTION FOR IRELAND (FISHERIES BRANCH): 2 type specimens of crinoids, *Atelecrinus helix* and *Trichometra hibernica* (54334).
- DUMONT, FRED'K. T. F., American consul, Madrid, Spain (through Department of State): 13 Carib hatchets and axes from Guadeloupe, F. W. I., collected by the donor (54563).
- DUNCAN, MISS F., Glen Carlyn, Va.: Specimen of myrtle warbler, *Dendroica coronata*, from Virginia (55350).
- DUNN, E. R., Alexandria, Va.: Water-snake from Virginia (55328).
- DURBAN, NATAL, DURBAN MUSEUM: 2 skeletons (with skulls) and 3 skulls of dolphins (55540: exchange).
- DUVALL, CHARLES F., Aguila, Ariz.: Moth, *Hemileuca juno* (54748).
- EBBS, MRS. FLORENCE A., Washington, D. C.: 2 pieces of sculpture in marble, Cordelia, attributed to Harriet Hosmer, and Esmeralda, by Romanelli (54643: loan).
- EOBERT, DR. J. HOBART, Superintendent, Medical Department, United Fruit Company, Santa Marta, Colombia: 43 mosquitoes from Colombia (55242); 339 Diptera and other insects from Colombia (55640).
- EGGLESTON, W. W., U. S. Department of Agriculture, Washington, D. C.: 3 specimens of *Crataegus* from South Dakota (54595); 45 specimens of *Crataegus* collected by C. C. Deam in Indiana (55255).
- EGYPT EXPLORATION FUND, London, England (through S. W. Woodward, Washington, D. C.): 70 objects of antiquity from Abydos, El Mahasna, Taieba and Deir el Bahari (54593).
- ELLIS, MISS CHARLOTTE C., Placitas, N. Mex.: Specimen of cactus from New Mexico, received through Prof. E. O. Wootton (54457).
- ELLIS, MRS. WILLIAM M., Shawsville, Va. (through Mrs. Julian James and Mrs. R. R. Hoes, Washington, D. C.): Dress worn by the wife of President John Tyler when presented at the Court of Louis Philippe, about 1843 (54460: loan).
- ELMER, A. D. E., Manila, P. I.: 1991 plants from the Philippine Islands (54738: purchase).
- ELY, DR. C. R., Gallaudet College, Kendall Green, Washington, D. C.: 12 parasitic Hymenoptera bred from *Lithocolletes propinquella* (54390).
- EMMONS, DR. A. B., Marion, Mass.: Anatomical specimen (54346).
- ENGELHARDT, GEORGE P., Brooklyn, N. Y.: 8 specimens of Sesiidae (55120).
- ENO, MRS. WILLIAM PHELPS, Washington, D. C. (through Mrs. James W. Pinchot, Washington, D. C.): A piece of point d'Angleterre lace (55521).
- ENTWISLE, W. B., Alexandria, Va.: 25 roughly shaped quartzite arrowpoints and 19 broken blades and arrowpoints, found near Alexandria (55217).
- ESHNAUR, MRS. W. H., Terminal, Cal.: Specimens of *Forreria belcheri* and *Chione fluctifraga*, from shallow water, San Pedro Bay, Cal. (54601).
- ESPOSITO, VARNI COMPANY, New York City: 11 specimens of gems (54886: purchase).
- EVANS, JOHN D., Trenton, Ontario, Canada: 26 specimens of Lepidoptera (55304).
- EVANS, WILLIAM T., New York City: 5 paintings in oil, "The Meadow Brook," by Charles Paul Gruppe (54300); "The Mourning Brave," by Edwin Willard Deming (54527); "The Fur Muff," by Robert David Gauley (55113); "Water

EVANS, WILLIAM T.—Continued.

Lilies," by Walter Shirlaw (55218); "Castle Creek Canyon, South Dakota," by Frank De Haven (55525); 2 pastels, "Suffer the Little Children to come unto Me" and "Christ before Pilate," by Otto Walter Beck (54939).

FAHS, R. Z., Edmonds, Wash.: 14 specimens of mollusks from various localities (55498).

FAIRCHILD, DAVID G., U. S. Department of Agriculture, Washington, D. C.: Specimen of Hymenoptera and one of Lepidoptera, from Chevy Chase, Md. (54730).

FALL, MRS. GEORGE W., Nashville, Tenn. (through Mrs. R. R. Hoes, Washington, D. C.): Blue brocade satin dress worn by Mrs. James K. Polk at the White House (55171: loan).

FARMER, ROBERT, Washington, D. C.: Small coiled jar found by the donor five miles east of Zufli, N. Mex. (55505).

FAUVER, W. F., Goldroad, Ariz.: Specimen of *Stagnomantis* (54512).

FAXON, DR. WALTER, Museum of Comparative Zoology, Cambridge, Mass.: 31 photographs of type specimens of crustaceans (54565).

FEDERATED MALAY STATES, FORESTRY DEPARTMENT. (See under Kuala Lumpur.)

FEDERATED MALAY STATES MUSEUMS. (See under Kuala Lumpur.)

FELIPPONE, DR. FLORENTINO, Montevideo, Uruguay: 6 insects, 2 shrimps, 2 algæ, 25 reptiles and an egg-case of a shark (55239).

FELT & TARRANT MANUFACTURING COMPANY, Chicago, Ill.: A comptometer (54382).

FEWKES, DR. J. WALTER, Bureau of American Ethnology, Washington, D. C.: 7 stone axes (interrupted groove), and a stone ring (tufa), from a compound near Phoenix, Salt River Valley, Ariz. (54400); 4 turtle shells and parts of a fish, from Isle of Pines, Cuba, West Indies (54413: collected for the Museum); 11 sponges from Grand Cayman Island, jurisdiction of Jamaica, British West Indies (54479).

FIELD MUSEUM OF NATURAL HISTORY, Chicago, Ill.: 37 fishes, representing 10 species, from Costa Rica (54485); 15 ferns from Peru (54848); 2110 plants, chiefly from the northern part of the United States (54901); 2 pieces of meteoric stone, a 106-gram mass of Juvinas, and a 10-gram piece of Petersburg (54974). Exchange. (See under Smithsonian Institution, Smithsonian Biological Survey of the Panama Canal Zone.)

FINLEY, J. P., Washington, D. C.: Mantras from a prayer-wheel, Tibetan (54797).

FISHER, GEORGE L., Houston, Tex.: 192 plants chiefly from Texas (54379; 54618; 54885; 55375).

FITZGERALD, HARRINGTON, Philadelphia, Pa.: Oil painting, "The Wreck," by Harrington Fitzgerald (55518).

FLETCHER, MRS. L. C., Washington, D. C.: 4 Aleut baskets (55262); a collection of 99 specimens of basketry, beadwork, etc. (55397: loan).

FLORIDA, UNIVERSITY OF, AGRICULTURAL EXPERIMENT STATION, Gainesville: 10 paratypes of *Cryptothrips floridensis* (55339).

FOLEY, E. H., Rutland, Vt.: Block of fuchsite marble (54511).

FOOTE, MRS. KATE N., Washington, D. C.: Commissions, copies of resolutions, certificates of membership and other documents which belonged to Rear Admiral A. H. Foote, U. S. Navy, and to his son, Capt. Augustus R. S. Foote, U. S. Army (54781: loan).

FOOTE MINERAL COMPANY, Philadelphia, Pa.: Piece of the St. Michel meteoric stone weighing 625 grams (55343); 2 specimens of minerals (54737). Exchange.

FORBES, F. F., Brookline, Mass.: 28 specimens of *Salix* from Massachusetts (55266).

FORSYTH, The Misses, Kingston, N. Y. (through Mrs. R. R. Hoes, Washington, D. C.): Dress of golden-brown striped silk and an apron of embroidered white mull which were worn about 1760 by Mrs. Cornelius Wynkoop of New York;

FORSYTH, The Mises—Continued.

- calash of Mrs. Severyn Bruyn of Kingston, N. Y., made of black China silk and worn about 1800; dress of pale green China crêpe, collar of broad, round piece of white mull with richly embroidered border edged with lace, and a hat of coffee-colored silk, worn by Miss Mary Catharine Bruyn, of Kingston, within the years 1835-1840 (55149: loan).
- FORWOOD, Brig. Gen. WILLIAM H., U. S. Army (retired), Washington, D. C.: 5 seeds, chiefly of palms (55539).
- FOSTER, A. S., Gate, Wash.: 48 plants from Washington (54274).
- FOSTER, E. J., Mosheim, Tex.: The upper mouth-plate of a fossil pycnodont fish from Hamilton County, Tex. (54757: purchase).
- FOX, Dr. CARROLL, Bureau of Health, Manila, P. I.: 19 specimens of rats and mice, from the Philippine Islands (54919).
- FRANZEN, J. W., Minneapolis, Minn.: 4 specimens of Lepidoptera, *Eurythme eurythme* (55053).
- FREEMAN, Miss ISABEL C., and Mrs. B. H. BUCKINGHAM, Washington, D. C.: Collection of shawls and scarfs, Chinese and Japanese embroideries, Japanese arms and armor, lacquers, fans, etc. (55382).
- FREEMAN, NATHANIEL, Washington, D. C.: Booklets, cards, a letterhead, a newspaper and a bank-note, 21 specimens (55603).
- FRENCH CREEK GRANITE COMPANY, St. Peters, Pa.: A five-inch cube of granite (54545).
- FRICK, CHILDS, New York City: About 20 specimens of fresh-water crabs and 5,292 bird skins, collected on the Childs Frick expedition to Abyssinia and British East Africa (54977; 55019).
- FRIEDMAN, JOHN L., C. Victoria, Tamaulipas, Mexico: Grass, *Andropogon annulatus*, from Mexico (54440).
- FRIERSON, L. S., Frierson, La.: 6 specimens, representing 2 species, of *Neophronias* from Guatemala, Atlantic drainage (55178).
- FRIESE, Dr. H., Schwerin, Mecklenburg, Germany: 218 specimens of bees of the family Meliponidæ (90 of which are cotypes) comprising 106 forms (55319: purchase).
- FRITSCHLE, Dr. W. E., Olney, Ill.: Specimens of king rail, *Rallus elegans*, from Olney (54851).
- FUCHS AND LANG MANUFACTURING COMPANY, New York City: 3 books, "Machinery," "Lithographers Supplies," and "The Invention of Lithography," published by the donors, 43 half-tone reliefs of lithographic machinery, picture of the bronze bust of "Aloys Senefelder, Inventor of Lithography, 1771-1834" (printed in 1910), and 9 bottles of litho varnishes (55192); a set of progressive lithographic proofs of the front and back covers of "The National Lithographer," lithographic cover for "The National Lithographer," and a copy of the magazine "The National Lithographer" (55384).
- FUENTES, Prof. F., Museo Nacional, Santiago, Chile: 13 specimens of grasses from Chile (55108).
- FULTON, RICHARD, Laurel, Md.: Skin of *Marmota* from Simpsonville, Md. (55426).
- FUNG, Dr. H. K., U. S. Department of Agriculture, Washington, D. C.: 4 specimens of *Blarina* and 2 of *Peromyscus*, from New Hampshire (54664).
- FURNISS, Miss CLEMENTINA, New York City (through Mrs. Julian James): Japanese lady's court dress, together with manikin for mounting (55006); a dress made to represent one belonging to the wife of Henry III of France, a Norwegian peasant's bridal dress, a Chinese lady's embroidered dress (jacket and skirt), a Japanese wig for court costume, a small Japanese lacquered comb, and 3 manikins (55184).

- GAILLARD, Mrs. KATHERINE, Washington, D. C.: Living specimen of cactus collected in the Canal Zone (55424).
- GARDNER, J. H., Hopewell, Pa. (through David White): A fossil plant stem, *Calamites cf. rameri*, from near Hopewell (54767).
- GARE, S. H., Ridgely, Tenn.: Mole cricket, *Gryllotalpa borealis* (55023).
- GARMAN, Prof. H., State University of Kentucky, Lexington, Ky.: 2 crayfishes, *Cambarus subterraneus* n. sp. (55595).
- GARRETT, A. O., Salt Lake City, Utah: 2 living specimens of Cactaceæ, *Opuntia fragilis* and *O. polyacantha*, from near Grantsville, Utah (54830).
- GAYNOR, Rev. WILLIAM C., St. Joseph's Abbey, St. Benedict, La.: Arrow-points and other artifacts taken from the Indian middens of St. Tammany Parish, La. (55399).
- GEE, Prof. N. GIST, Soochow University, Soochow, China: 58 copper and 5 brass modern Chinese coins, including coins from the various mints of the Empire, and a coin of the new Republic (54309); 29 canceled Chinese postage stamps (54947); 18 uncanceled postage stamps issued by the Republic of China (55067); 82 copper and 10 brass modern Chinese coins (55567).
- GEORGIA, GEOLOGICAL DEPARTMENT OF THE STATE OF, Atlanta, Ga.: 25 Devonian fossils from the Armuchee chert of Georgia (54671).
- GERRARD, EDWARD, AND SONS, Camden Town, London, England: Skull of *Ovis musimon* (54873: exchange).
- GIFFARD, W. M., Honolulu, Hawaii: 82 wasps (54677).
- GIFFORD, A. S., Copper Hill, Ariz.: 3 specimens of hemipterous insects belonging to the genus *Conorhinus* (54499).
- GILBERT, Dr. C. H., Stanford University, Cal.: Crustaceans from the stomachs of salmon captured between Tacoma and Seattle (55283).
- GILL, G. W., U. S. National Museum: Box tortoise, *Terrapene carolina*, from the District of Columbia (54477); sponges from Pocomoke Sound, Chesapeake Bay, Md. (55109); isopods from Potomac River, Va., one mile above Washington, D. C. (55232); amphipods and isopods from the vicinity of Washington (55251); 6 chipped blades found by the donor just above Chain Bridge, on the Virginia side of the Potomac River (55588).
- GILL, Dr. THEODORE N., Smithsonian Institution: 14 photographs of scientists (54347).
- GILLET, EDWARD, Southwick, Mass.: 5 living specimens of *Opuntia* from Pennsylvania (55460: exchange).
- GILMAN, M. FRENCH, Sacaton, Ariz.: 2 living specimens of *Opuntia spinosior*, from near Sacaton (55446).
- GIRAULT, A. A., Nelson Cairns, North Queensland, Australia: 4 cotypes of *Padagrion beneficium* (54867).
- GIST, F. E., San Francisco, Cal.: Collection of 70 archeological and ethnological specimens from California (55608: purchase).
- GLASGOW, J. P., Gainesville, Tex.: Splenial plate of a pycnodont fish from Texas (54846: exchange).
- GODING, FREDERIC W., American consul, Montevideo, Uruguay (through Department of State): About 40 specimens of Diptera (54754).
- GODMAN, F. D., London, England (through Philip P. Calvert): 226 neotropical dragonflies (54329: exchange).
- GOODDING, LESLIE N., Bisbee, Ariz.: 421 plants chiefly from Arizona (55440: exchange).
- GOODRICH, Rear Admiral C. F., U. S. Navy, Washington, D. C.: Terra cotta tile taken from an old temple in Burma, India (54813).
- GOODYEAR, NELSON, New York City: Collection of paintings, books, medals, jewelry, and other articles of hard rubber, relating to the invention and application of vulcanized rubber by Charles Goodyear (54840: loan).

- GÖRGES, JULIUS, Düsseldorf, Prussia: 10 specimens of silicified sponges from the Senonian of Halberstadt (54584: exchange).
- GORJANOVIĆ-KRAMBERGER, Prof. Dr., Narodni Muzej, Zagreb, Croatia, Austria: Plaster casts (22 pieces) of ancient human remains, "The Krapina Man," together with casts of six of the stone implements found associated with the skeleton (54826).
- GOTTSCHALL, A. H., Harrisburg, Pa.: Retouched and fake arrowheads, obtained by the donor from a dealer in New Mexico prior to 1913 (55400).
- GRANT, Mrs. FREDERICK DENT, Washington, D. C.: Memorials of Maj. Gen. Frederick Dent Grant, U. S. Army, and of his father, Gen. Ulysses S. Grant, U. S. Army (54682); ethnological, historical, and biological objects collected by Maj. Gen. Grant in various parts of the world (54799); souvenir and presentation silverware, Russian enamel spoons, and three framed photographs of Maj. Gen. Grant (55332).
- GRANT, Maj. Gen. FREDERICK DENT, U. S. Army (through Mrs. Frederick Dent Grant): Carving set of silver and ivory (7 pieces), presented to Gen. Ulysses S. Grant by the people of San Francisco in 1871; and a carving set of silver and ivory (7 pieces), and two dozen dinner knives, of silver and ivory, presented to Gen. Grant in 1869 (55333).
- GRAY, C. K., El Paso, Tex.: Specimen of walking-stick, *Rhabdoceratites covillei* (54526); 3 male and 3 female Phasmids and 1 female specimen of *Stagmomantis californica* (54663).
- GRAY, Mrs. JOHN R. (See under Mrs. Mary J. Roach.)
- GREEN, A. E., M. L. A., Parliament House, Perth, Western Australia: Specimens of Western Australian woods (54955: exchange).
- GREENE, CHARLES T., East Falls Church, Va.: 10 specimens of Diptera (54755).
- GREENE, W. MAXWELL, American consul, Hamilton, Bermudas (through Department of State): 44 samples of earth from a well boring in Southampton, Bermudas (54865).
- GRIFFITH, J. M., Orizaba, Mexico: Larva of a moth of the genus *Automeris* (54553).
- GRIFF, C. W., San Diego, Cal.: 4 marine shells, types of new species, from California (54354).
- GRIFF, Mrs. C. W., San Diego, Cal.: 24 specimens of marine shells, representing 6 species, from San Diego (55179).
- GRISWOLD, Miss JENNIE M., Washington, D. C.: Gold bracelet, blue enamel and niello on woven gold band, with inscription on the clasp (54509: loan).
- GRONBERGER, S. M., Smithsonian Institution: Copies of "Jul Kvallen," 1912, and "Midvinter," 1912, containing color prints (54941).
- GUDGER, Dr. E. W., Greensboro, N. C.: Crabs, fishes, and a shrimp, from the Tortugas (54419).
- GUILD, F. N., Green Mountain Falls, Colo.: 2 pieces of volcanic tuff (54384).
- GYRO MOTOR COMPANY, Washington, D. C.: Aeroplane engine devised by Emile Berliner and used in his aeronautical experiments in the winter of 1907-08 (55168).
- HAAGE, F. A., jr., Erfurt, Germany: 2 living specimens of Cactaceae (55035: exchange).
- HAAGE AND SCHMIDT, Erfurt, Germany: 3 living specimens of Cactaceae (54409); living specimens of *Echeveria* and *Sedum* (54699); 4 living specimens of Cactaceae (55041: exchange).
- HABERER, Prof. A., Bad Griesbach, Germany: Skull of a Negro from South Kamerun, Africa, showing nasal anomaly (lower jaw missing) (55025).
- HABERER, Dr. J. V., Utica, N. Y.: 155 plants from New York (55351).
- HAGERMAN, H. J., Roswell, N. Mex.: 4 fossil mammal teeth (55571).

- HALBACH, EDWIN, Washington, D. C.: Specimen of pine-mouse, *Pitymys pineporum scalopsoides* (55642).
- HALE, WALTER, St. Cloud, Fla.: Skull of *Sciurus niger* (54837).
- HALLIDAY, WALTER L., New Britain, Conn.: 2 coupling links and pins (55390).
- HAMILTON, DR. ALLAN McLANE, New York City: 4 early American chairs, 2 of which belonged to Maj. Gen. Philip Schuyler and 2 to Alexander Hamilton (54690: loan).
- HAMILTON, MRS. MAY C., New York City (through Dr. Allan McLane Hamilton): 2 side tables which belonged to Alexander Hamilton (55607: loan).
- HANBURY, LADY KATHERINE A., La Mortola, Ventimiglia, Italy: 43 living specimens of Cactaceæ (54406; 55032; 55497); specimen of *Opuntia cholla* grown from a part of Weber's type (55291); 2 specimens of *Opuntia cholla* (55467). Exchange.
- HANNIBAL, HAROLD, Stanford University, Cal.: 32 specimens of marine shells, representing 13 species, from Puget Sound and California (55245); 25 specimens of marine shells, representing 6 species, from Alaska, Washington and California (55303); Tertiary fossils, representing 9 species, from the Upper Pliocene "Elk River beds," at the mouth of Elk River at Port Orford, Oreg. (55449).
- HARDY, I. B., Santa Barbara, Cal.: 51 specimens of *Cypræa* from Honolulu (54637: exchange).
- HARMER, F. W., Cringleford near Norwich, England: Fossils, representing 3 species, from the Norwich Orag (Pliocene) of Great Britain (54963).
- HARRING, H. K., Bureau of Standards, Washington, D. C.: 142 microscopic alides (139 species) of Rotifera, including 5 new species (54586).
- HARRINGTON, J. P., School of American Archaeology, Santa Fé, N. Mex.: Ethnological material of the Mohave Indians of Arizona, collected by Mr. Harrington (55570: purchase).
- HARRIS, Capt. J. R., U. S. Army, Fort Slocum, N. Y.: Malay manuscript obtained from the Moros, P. I. (55324).
- HARRIS, WILLIAM, Hope Gardens, Kingston, Jamaica: Specimens of Coleoptera (55127).
- HARRISON, Miss CARRIE, U. S. Department of Agriculture, Washington, D. C.: 6 pottery ornaments (heads of vessels) from Mexico; and 2 pottery covers (of canopic jar), Egyptian (54723).
- HARRISON, GEORGE L., jr., Philadelphia, Pa. (See under Wilhelm Schlüter.)
- HARSHBERGER, Dr. JOHN W., University of Pennsylvania, Philadelphia, Pa.: Plants from Florida (55079).
- HARTMAN, H. H., Allentown, Pa.: 23 specimens of land and fresh-water shells from Saucon Creek and Lehigh River, Pa.; 4 fossil plants and a specimen of insect borings; also 12 arrow-points from Tennessee, Oregon and Pennsylvania (55198).
- HASBROUCK, E. M. (See under William Palmer and A. C. Weed.)
- HASSE, Dr. H. E., Sawtelle, Cal.: 155 lichens from California (54759); 2 specimens of *Dudleya* from near Santa Monica (55621).
- HAWAIIAN RUBBER GROWERS ASSOCIATION, Nahiku, Maui, Hawaii (through Alexander & Baldwin, Ltd., New York City): Specimens of rubber and rubber-tree seeds (54821).
- HAY, Dr. O. P., Washington, D. C.: Skull, lower jaw, and 5 cervical vertebrae of a large fossil bison from Alaska (55027: loan).
- HAY, W. P., Washington, D. C.: 3 specimens of Peripatidæ (55318).
- HAYCOCK, ARTHUR, Whitby, Bailey Bay, Bermudas: Shells from the Bermudas (54287).
- HEATH, HAROLD, Stanford University, Cal.: 2 skulls from "Ponce Mound," approximately 4 miles southeast of Palo Alto, Cal. (55261).

- HEDLEY, CHARLES**, Australian Museum, Sydney, New South Wales: 19 specimens, representing 3 species, of marine shells from Australia (55454).
- HEIGHWAY, A. E.**, New York City: 2 specimens of rutile in quartz, 2 of chrysoprase, 1 of pink tourmaline and 1 of manganese (55054); 6 specimens of polished agate (55450); 3 tourmaline crystals and 4 pieces of gem chrysoprase, cut (55451: loan).
- HELLER, Prof. A. A.**, University of Nevada, Reno, Nev.: Specimen of *Abro-nia* from Nevada (54652); 350 plants from Nevada (54786: purchase).
- HENDERSON, JOHN B.**, Washington, D. C.: 36 specimens, representing 4 species, of land shells from the Bahama Islands (54613); type of *Prosopaea argentea*, a land shell from Engano Island, off the southern coast of Sumatra (55220); tank of invertebrates from the Florida Keys (55466); 9 species of Panama marine shells (55559).
- HERRE, Prof. ALBERT W. C. T.**, Oakland, Cal.: 82 lichens from California (54277).
- HESS, FRANK L.**, U. S. Geological Survey, Washington, D. C.: Cassiterite (wood tin) from Dawson, Yukon Territory, Canada; and strüverite (tantalo-rutile) from Perak, Federated Malay States (55048).
- HEYE, GEORGE G.**, New York City: Skin and one fetus of *utia*, *Capromys ingrahami*, from the Bahama Islands (54559); 45 pottery vessels from Ecuador (54776: exchange).
- HIGH SPEED RING COMPANY**, Boston, Mass.: 2 high-speed rings, equipped with centering plates and travelers (54501).
- HILDEBRAND, S. F.** (See under Smithsonian Institution, Smithsonian Biological Survey of the Panama Canal Zone.)
- HILL, Mrs. C. ALBERT.** (See under Edward Rutledge Pinckney and Capt. Thomas Pinckney.)
- HILL, THOMAS S.**, Moodys, Okla.: 45 fossils from Oklahoma (55345); about 500 specimens of Carboniferous and Cretaceous fossils and 145 specimens, representing 9 species, of Unionidæ, from Oklahoma (55552).
- HILLIS, E. T.**, Barstow, Cal.: A cube of marble from quarries near Barstow (54793).
- HIORAM, Brother**, Colegio de San Pablo San Juan, P. R.: 61 ferns mainly from Porto Rico (55063; 55167; 55479); 5 specimens of *Cyperus* from Porto Rico (55510).
- HIPPSLEY, Mrs. W. W.**, Valley River, Dauphin District, Manitoba: Land and fresh-water shells, about 50 specimens, from Lake Winnipeg and vicinity (55368).
- HITCHCOCK, Prof. A. S.**, U. S. Department of Agriculture, Washington, D. C.: 12,800 specimens of grasses (including the Scribner herbarium of 8,000 specimens) (55463: purchase).
- HITCHCOCK, ROMYN**, Ithaca, N. Y.: One of the original records, on tape, of the American Rapid Telegraph Company; also a roll of 13 sheets representing "Haniwa" from burial mounds and dolmens in Japan, by a Japanese artist (55059).
- HIXON, HIRAM W.**, Aire Libre, Puebla, Mexico: 2 plants from Mexico (54471; 54608); skin of a raccoon-fox, or cacomistle, *Bassariscus astutus*, from Mexico (54874).
- HOBSON, Mrs. ELIZABETH C.** (through Mrs. Richard G. Lay, Washington, D. C.): Picture representing the tomb of "Mahomet the Gentleman" at Broussa (Turkey-in-Asia), which was painted for Mrs. Hobson by Hamdy Bey in Constantinople in 1884 (54616: bequest).
- HOCHDERFFER, GEORGE**, Flagstaff, Ariz.: 13 living specimens of Cactaceæ from Arizona (55448).
- HODGE, PAUL F.**, Garrett Park, Md.: Specimen of broad-winged hawk, *Buteo platypterus*, from Maryland (54986).

- HOES, Mrs. R. R. (See under Mrs. William M. Ellis, Mrs. George W. Fall, the Misses Forsyth, and Mrs. John Southgate Tucker.)
- HOLDER, CHARLES F., Pasadena, Cal.: The frontal bone, with portions of the parietal bones, of an Indian skull, from a cave on Santa Catalina Island, Cal. (54950: loan).
- HOLLISTER, N., U. S. National Museum: 2 skins of bob white, *Colinus virginianus*, from Virginia (54775).
- HOLLISTER, Mrs. N., Washington, D. C.: 129 plants from Arkansas (55536).
- HOLM, Dr. THEODOR, Brookland, D. C.: Seedlings and rhizomes (alcoholic material) of 9 species of plants from the District of Columbia and vicinity (54570).
- HOLMES, WILLIAM H., U. S. National Museum: Ethnological specimens from Mexico (54835); collograph in color and a photograph of the painting "Midsummer," by Mr. Holmes, in the Corcoran Gallery of Art. Published by the Detroit Publishing Company (54938).
- HOLTZMAN, C. T., Luray, Va.: Specimen of *Orobancha* from Virginia (54521).
- HOOD, J. D., Bureau of Biological Survey, Washington, D. C.: 23 specimens of Hymenoptera from Plummer's Island, Md. (55641).
- HOPE GARDENS, DEPARTMENT OF AGRICULTURE. (See under Kingston, Jamaica.)
- HOPKINS, ALFRED H., Washington, D. C.: A breech-loading gun of English manufacture (54966).
- HOPPE, PAUL, Fairbanks, Alaska: 3 photographs of interlocked moose antlers (54442).
- HORR, Mrs. ELLA L., Worcester, Mass.: Branchiopods, *Eubrachipus vernalis* (55257).
- HORSTMANN COMPANY, WILLIAM H., Philadelphia, Pa.: 37 specimens of upholstery trimmings (55554).
- HOUGH, Dr. WALTER, U. S. National Museum: An ancient Pueblo vase of large size which was discovered on Leroux Wash, northwest of Holbrook, Ariz., by Frank A. Zuck (54803); stone implements and objects, pottery fragments, etc., from West Virginia, Ohio, and the District of Columbia (54833).
- HOUSE, H. D., Oneida, N. Y.: 140 plants chiefly from the northwestern part of the United States (55297).
- HOUSE, Mrs. H. H., Washington, D. C.: Hair wreath (55201).
- HOWELL, A. B., Covina, Cal.: 49 bird skins from California (54349: exchange).
- HRDLIČKA, Dr. ALEŠ, U. S. National Museum: Vase from Ruin Charachaco ("Black Town"), southern Mongolia, about 1,200 miles southwest of Urga (54825); 18 mammals from Peru (55431); 3 eggs, representing 2 species of tinamous, from Peru (55432); 9 photographs of Jamaican Negroes (55532: purchase).
- HULL, LATHROP W., Oshkosh, Wis.: A telescope rifle (55047: loan).
- HUNGARIAN NATIONAL MUSEUM, BOTANICAL SECTION. (See under Budapest, Hungary.)
- HURTER, JULIUS, sr., St. Louis, Mo.: 2 specimens of horned toad, *Phrynosoma hernandesi* (54831); salamander from Marble Cave, Mo. (55562).
- HUSSEY, Mrs. JOSEPH C., Saratoga Springs, N. Y.: Silver watch, carried during the Civil War by Lieut. Joseph C. Hussey, Tenth Wisconsin Infantry, U. S. Volunteers, and struck by a minié ball while in his pocket at the battle of Perryville, Ky., October 8, 1862 (54502).
- HUTCHINSON, Dr. W. F., Portsmouth, Va.: Skin and skull of a swamp rabbit (55143).
- HUTTON, Dr. S. G., Darien, Ga.: Brown pelican, *Pelecanus occidentalis* (55130).
- HYDE, A. G., & SONS, New York City: 14 1-yard samples of cotton fabrics (54927).
- HYDE, FREDERIC BULKELEY, Washington, D. C.: Banner of Dog Soldier, Osage Indians, Oklahoma (55387).

HYSLOP, J. A., Hagerstown, Md.: Barnacle, *Conchoderma auritum*, from the head of a humpback whale at Ocosta, Wash. (54772).

INDIA, GEOLOGICAL SURVEY OF. (See under Calcutta, India.)

INDIAN MUSEUM. (See under Calcutta, India.)

INGERSOLL, Miss EMMA, Olney, Ill.: Specimen of *Calliostoma tricolor* from Monterey, Cal. (54920).

INGLIS, JOHN, Magnet, Ark.: Specimen of rutile with feldspar and one of brookite with quartz, from Magnet (54491).

INGRAM, AUGUSTUS E., American consul, Bradford, England (through Department of State): A series of specimens illustrating the manufacture and finishing of woolen fabrics as produced in Bradford; mounted on ten cards and prepared by Prof. Aldred F. Barker, Bradford Technical College (55613).

INTERIOR, DEPARTMENT OF:

Skin and skeleton of a male bison, received through the superintendent of the Yellowstone National Park (55215).

Bureau of Mines (through David White): A specimen of anthracite coal showing blister-like cleavage (54506).

U. S. Geological Survey: 51 specimens of minerals (54391); 20 fossil bones, representing titanotheres and creodonts of the White River Group, N. Dak., collected by C. J. Hares; and a small lot of fragmentary vertebrate remains also collected by him from the White River Group, in the Medicine Pole Hills, 12 miles southwest of Bowman, N. Dak. (54425; 55014); 40 drawers of Ordovician fossils collected by E. O. Ulrich and R. S. Bassler in the Central Basin of Tennessee (54498); specimen of native copper and one of sandstone containing native copper, from near La Paz, Bolivia (54650); fossil jaw of *Titanotherium prouti*? collected by N. H. Darton from the White River formation at Deer's Ears Butte, north of Newell, S. Dak. (54716); fossil turtle collected in the Colorado shale on

INTERIOR, DEPARTMENT OF—Continued.

Shoshone River, near Cody, Wyo., by D. F. Hewett (54717); 300 specimens of Silurian invertebrates from the Eastport, Me., quadrangle, including the types of new species described from the Edmunds and Pembroke formations (54718); a small collection of fragmentary fossil reptiles and 2 small lots of fossil fish remains, obtained by W. T. Lee in Colorado (54829); 2 small lots of Cretaceous reptile and fish remains collected from the Judith Project, Mont., by C. F. Bowen (54905); 53 specimens of igneous rocks from the Apishapa quadrangle, Colo., collected principally in 1894 by G. K. Gilbert and assistant, and described by G. W. Stose (54981); fossil tooth of *Hyracodon* or small species of *Cænops*, collected from the White River group about 5 miles northwest of Pretty Rock, N. Dak., by E. Russell Lloyd (55005); a small lot of fragmentary vertebrate remains collected from the Wasatch horizon, N. Mex., by T. W. Stanton and W. T. Lee (55015); 1,952 specimens of invertebrate fossils, consisting of the type, figured, and other important specimens described by Henry Shaler Williams in two papers to be published by the Survey (55028); 8 small lots of fragmentary Cretaceous reptilian remains, collected by Eugene Stebinger and T. W. Stanton in Montana, in and near the Blackfeet Indian Reservation (55029); 15 small lots of vertebrate fossils collected by A. L. Beekly and T. W. Stanton in the Walcott quadrangle, southern Wyoming (55098); 35 specimens of *Anodonta beringiana* from a pond in Porcupine Valley, Yukon Territory, five miles northeast of Fort Yukon (55101); 5 specimens of typical phosphate rock from western phosphate fields (55153); a reference collection containing 171 specimens, illustrating Professional Paper No. 77, on the geology and ore deposits of the Park City district, Utah, by J. M. Boutwell; and an additional collection of about 600 duplicates of the same (55172); 65 specimens of rocks from

INTERIOR, DEPARTMENT OF—Continued.

- the Georgetown quadrangle, Colo., illustrating Professional Paper No. 63 (55233); the gold medal of the Institute of France which was awarded to the Survey in 1891 (55246: deposit); 59 specimens of rocks, illustrating the geology of Mount Greylock, Mass., and two boxes of slates from various localities, collected in connection with the preparation of Bulletin 275 of the Survey (55264); a small collection of fragmentary fossil bones belonging to the Permian reptile *Dimetrodon*, from Tillman County, Okla., obtained by M. J. Munn (55265); 21 boxes of geological material, and stone objects and potsherds of aboriginal manufacture from various localities (55288); 5 hand-specimens and chips of basalt, collected at The Dalles, Oreg., by J. T. Pardee (55293); 22 boxes of rocks, clays, and ores (55362); 271 types and illustrated specimens and about 1,500 duplicates of fossil plants, from the Raton Mesa region of Colorado and New Mexico (55363); the Elliott Cresson gold medal which was awarded by the Franklin Institute of Pennsylvania to the Survey in 1900 (55385: deposit); marble slab secured by T. Nelson Dale from the Vermont Marble Company's quarry at West Rutland, Vt., and 192 specimens of marbles from the eastern part of Vermont, collected by Mr. Dale (55553); 125 specimens of rocks from the Northeastern and Republic Mining Districts of Washington, illustrating a bulletin of the Survey (55563); 451 specimens of rocks and ores from the mining districts of New Mexico, illustrating Professional Paper No. 68 (55564); 255 specimens of rocks, minerals, and ores, collected by C. W. Hayes, F. B. Weeks, E. C. Eckel, and T. Nelson Dale (55572); 12 specimens of rocks and ores from various localities, collected by Waldemar Lindgren and George H. Girty (55580).
- ISLEY, F. B., Tonkawa, Okla.: 28 specimens, representing 18 species, of Naiades from Oklahoma (54591).
- ISLER & GUYE, New York City: 52 samples of straw braid, 31 straw body hats and 2 grass cloths (54857).
- ISTHMIAN CANAL COMMISSION: Relief map of the Gatun dam and locks and a working model of the Pedro Miguel locks (54318: loan); through Col. Geo. W. Goethals, U. S. Army, Culebra, 2 boxes of Tertiary fossils from various localities in the Canal Zone, collected by D. F. MacDonald (54770); 2 *Cypriodonts* and other small fishes, including species found destructive to mosquito larvæ, from a swamp near Gatun, Canal Zone, received through Dr. S. T. Darling, Ancon (55107; 55444).
- JACKSON, Dr. F. W., Jefferson, Me.: 6 eggs (3 sets) of loon, *Gavia immer*, from Maine (55561).
- JACKSON, H. H. T., Bureau of Biological Survey, Washington, D. C.: Frog from Wisconsin (54720).
- JACKSON, J. WILFRID, Manchester Museum, Owens College, Manchester, England: 2 specimens of *Macandrevia diamantina* from 1410 fathoms off Coats Land, Antarctica (Scottish Antarctic Expedition) (55081).
- JACOBSON, EDWARD, The Hague, Holland: 74 isopods from Java (54268).
- JACOBS, F. G., Elizabeth City, N. C.: A four-legged and four-winged chick (54337).
- JAMES, Mrs. JULIAN, Washington, D. C.: Gilt empire chair, walnut parlor chair covered with crewel work, folding chair made in 1860, and a mahogany inlaid chair (54344); anthropological and biological material from the collections of Theodorus Bailey Myers and Lieut. Commander T. B. M. Mason, U. S. Navy, and Mrs. Mason, including oriental weapons and fabrics, etc., engravings, ceramics, archeological and ethnological specimens, marine shells, corals, sea urchins, etc. (54372: loan); framed photograph of a Korean prince, Min-Yon Ik, framed photograph of a Siamese prince, one length of Japanese brocade, and a square of Chinese brocade (54692: loan); 2 large cloisonné

JAMES, MRS. JULIAN—Continued.

vases, 7 rings showing development of art, Japanese bamboo flute, 3 Japanese models in tortoise-shell, and a cane made from a piece of the American privateer *George* (54935: loan); 5 India shawls which had belonged to members of the Bailey-Myers-Mason families and which had formerly been lent to the Museum under accession number 11244 (55007); ethnological and art objects; also 4 Delft tile pictures (55008: loan). (See under Mrs. William M. Ellis, Miss Clementina Furniss, Miss L. L. Lander, Edward Rutledge Pinckney, Capt. Thomas Pinckney, Mrs. Presley M. Rixey, and Mrs. John Southgate Tucker.)

JEKYLL, Miss HARRIET, Washington, D. C.: About 500 mineral specimens, presented in memory of her sister, Mrs. Charlotte J. Woods (54689).

JESSUP, J. M., Seattle, Wash.: 6 mammals and 4 fishes, from northern Alaska (54673); 2 bird skins from Alaska (54828); about 100 specimens of freshwater and land shells from Yukon Territory and northern Alaska (55102).

JEWELL, FRANK, Binghamton, N. Y. (through Christopher Wren, Plymouth, Pa.): Skull and 2 femurs of a white man from the vicinity of Binghamton (55247).

JIMBO, Prof. K., Imperial University, Tokyo, Japan: 2 specimens of a new radio-active mineral, hokutolite, from Japan (54864; 54942); 21 grams of meteoric stone from Hachiman, Mino Province, Japan (55174: exchange).

JIMÉNEZ, OTÓN, Museo Nacional, San José, Costa Rica: 86 ferns from Costa Rica (54568; 54651); 4 ferns from Costa Rica (54956: exchange); specimen of *Uncinia* from Costa Rica (54741); 2 herbarium specimens from Costa Rica (54785: exchange); 27 specimens of ferns and Cyperaceae from Costa Rica (54923; 55231).

JOCHELSON, WALDEMAR, St. Petersburg, Russia: Album of photographs of prehistoric specimens obtained by the donor in excavations of old Aleut village sites and burial caves (55139).

JOHNSON, C. W., Boston Society of Natural History, Boston, Mass.: Specimens of a remarkable blackish variety of *Thais lapillus* from Bass Rocks, Gloucester, Mass. (54600); 8 specimens of Diptera (55065).

JOHNSON, E. C., U. S. S. *Albatross*, Sausalito, Cal. (through Dr. J. C. Thompson, U. S. Navy): 2 lizards and eggs from California (55583).

JOHNSON, FRANK EDWARD, Dresden, Germany: 7 panorama photographs of mountain-climbing Troglodytes and curious dwellings of southern Tunisia, North Africa (54366).

JOHNSTON, Mrs. E. E., Los Angeles, Cal.: 2 specimens of *Trachydermon dentiens* of unusual color, from White's Point, San Pedro, Cal. (55592).

JOHNSTON, Miss FRANCES BENJAMIN, Washington, D. C.: Brass "spider" of English make, 3 baskets from Palestine, and a conjuring package from North Carolina (54936).

JOHNSTON, JOHN R., Rio Piedras, P. R.: 26 ferns from Porto Rico (54976).

JONES, C. H., San Felipe, Campeche, Mexico: 8 eggs of ocellated turkey, *Agriocharis ocellata*, from Campeche (54528).

JORDAN, C. E., Andover, N. Y.: Buprestid beetle, *Dicera divaricata* (54422).

JORDAN, Dr. DAVID STARR, Stanford University, Cal.: Collection of fishes, including type specimen of *Gnathypops ionis*, collected by Y. Manabe, Yawatahama, Iyo, Japan (55428).

JOSHUA, E. C., Melbourne, Victoria, Australia: 6 specimens of holothurians, *Tæniogyrus allani*, and a microscopic slide showing the skin (54728); 18 specimens, representing 2 species, of holothurians (55488: exchange).

JUNG, A. M., Spokane, Wash.: Badge, 1887-1912 Silver Jubilee, Gonzaga College, Spokane (54371).

KAIN, Mrs. C. HENRY, Philadelphia, Pa. (through Albert Mann): The Kain collection of cleaned and dried diatom material from different parts of the

KAIN, MRS. C. HENRY—Continued.

United States and foreign countries, contained in 653 vials and 116 boxes (54459).

KAISERLICHER BOTANISCHER GARTEN.
(See under St. Petersburg, Russia.)

KANE, CHARLES, Washington, D. C.: A Colt's revolver (55417: loan).

KANSAS STATE NORMAL SCHOOL, Emporia, Kans.: Specimen of fresh-water sponge, *Heteromeyenia* (*Carterius*) *tubisperma* (55177).

KATSUNO, S., Tokyo, Japan (through Frank L. Hess): Specimen of wolframite and a specimen of reinite, from Japan (54473; 55049).

KEARFOTT, W. D., New York City: 8 specimens of Lepidoptera (55126).

KEARNEY, MORRIS M., Trujillo, Honduras: Specimen of *Securidaca volubilis* from Honduras (55330).

KEENAN, MICHAEL, Springer, N. Mex.: Specimen of ear-tick, *Otobius megnini* (54525).

KELLERS, H. C., U. S. Navy, U. S. S. *Albatross*, Sausalito, Cal. (through Dr. J. C. Thompson, U. S. Navy): 6 frogs from California (55582).

KELSEY, MRS. ALBERT WARREN, Chestnut Hill, Philadelphia, Pa.: Collection of relics of the Washburn family (55119).

KENNAN, GEORGE, Baddeck, Nova Scotia: Collection of ancient oriental weapons, consisting of sabers, yataghans, pistols, and guns, etc. (55222: loan).

KENNEDY, Miss MAY S., Charles Town, W. Va.: Lace veil worn by Miss Harriet Lane at her marriage to Mr. Henry Elliot Johnston (54437: loan).

KEW, LONDON, ENGLAND, ROYAL BOTANIC GARDENS: 489 plants from the Philippine Islands (54273); specimen of *Lycopodium lindenii* (54290). Exchange.

KEYSER, E. W., Washington, D. C.: Hupa woman's basket hat, fine small Pima basket, Zufi wooden figurine, and 2 models of Philippine fish spears (54308: exchange).

KIMBER, SIDNEY A., Cambridge, Mass.: 12 sheets of watermarked paper (55605).

KIMMELL, ANDREW and ATALA, Washington, D. C.: 10 specimens of crayfishes from Delaplane, Va. (54482).

KINGSTON, JAMAICA, DEPARTMENT OF AGRICULTURE, HOPE GARDENS: Specimen of *Polypodium nimbatum* from Jamaica (55624: exchange).

KIRK, Dr. EDWIN, U. S. Geological Survey, Washington, D. C.: 53 specimens of shells, representing 6 species, from Owens Lake, Cal. (54925).

KIYANA, ALFRED, Tama, Iowa (through Truman Michelson, Bureau of American Ethnology): Sacred bundle of the Fox Indians, Tama (54934: purchase).

KLING, W. B., Little Falls, N. J.: 11 fossil shells (54450).

KNAB, F. (See under J. R. Malloch.)

KNEUCKER, A., Karlsruhe, Baden, Germany: 90 specimens of Juncaceae and Cyperaceae, from various localities (55254: exchange).

KNIGHT, MRS. MARY W., Pocantico Hills, N. Y.: 44 clay concretions from the shore of Lake Champlain, Vt. (54429).

KNIGHT, O. W., Portland, Me.: 12 samples of peridotite from South Freeport, Me. (55229).

KNOWLES LOOM REED WORKS, New Bedford, Mass.: 10 loom reeds (54889).

KÖNIGL. BOTANISCHER GARTEN UND BOTANISCHES MUSEUM. (See under Berlin (Dahlem bei Steglitz), Germany.)

K. K. NATURHISTORISCHES HOFMUSEUM. (See under Vienna, Austria.)

KUALA LUMPUR, FEDERATED MALAY STATES, FEDERATED MALAY STATES MUSEUMS: Specimens illustrating the culture of the Central Sakai of the Batang Padang District, Perak, comprising bark cloth, bamboo combs, personal ornaments, etc. (55326).

KUALA LUMPUR, FEDERATED MALAY STATES, FORESTRY DEPARTMENT (through Leonard Wray): Specimens of gutta-percha, rubber, rubber tree products, coconuts and products (54817).

- KUESTER, ARTHUR, Stapleton, N. Y.: 33 specimens of Cactaceae obtained in the southern and western parts of the United States (55430).
- KUNZ, GEORGE F., New York City: 35 lots of radio-active materials and products (55353). (See under Sir William Crookes and Dr. Alexander H. Phillips.)
- LACROIX, Prof. A., Muséum d'Histoire Naturelle, Paris, France: 2 crystals of betafite from Madagascar (54769).
- LA FLESCHÉ, FRANCIS, Bureau of American Ethnology: 2 sacred bundles of the Wind Clan and Deer Clan of the Osage Indians (54946); an Osage buffalo-hair rope (lariat) and an Osage woven belt (55075). Purchase.
- LAMB, Dr. D. S., Army Medical Museum, Washington, D. C.: 3 anatomical specimens (54587; 54782).
- LANDER, Miss L. L., Washington, D. C. (through Mrs. Julian James): 2 lace veils, silk bonnet of the period of 1800-1810, and 2 headpieces of crochet work and beads (55056).
- LANE, Mrs. ELIZABETH C. BALL, Washington, D. C.: A small tortoise-shell perfumery case inlaid with silver, which was formerly owned by Mary Ball, the mother of Gen. Washington (54937: loan).
- LANE, H. H., University of Oklahoma, Norman, Okla.: Snake, *Glauconia dulcis*, from Oklahoma (55632).
- LANE, L. L., Seattle, Wash.: 5 eggs of spoon-billed sandpiper, *Eurymorhynchus pygmaeus*, from Siberia (54795).
- LAWRENCE & Co. (See under Merrimack Manufacturing Company, and Pacific Mills.)
- LEE, W. T., U. S. Geological Survey, Washington, D. C.: An iron hoe found in a deserted stick house, Zia Pueblo, N. Mex. (54834); portion of a large antique vase from New Mexico (54879: exchange).
- LEEDS, F. J., Des Moines, Iowa: A pair of "Belgium Carneaux" pigeons (55275).
- LEFFINGWELL, E. DE K., U. S. Geological Survey, Washington, D. C.: 2 bone wedges and 5 picks, from Barter Island, Alaska (54962).
- LEHMAN, Prof. B. N., general manager, Yankee Consolidated Mining Company, Salt Lake City, Utah (through Victor C. Heikes, U. S. Geological Survey): A specimen of zinc ore showing aurichalcite from the Yankee mine, Tintic District, Juab County, Utah (55099); a specimen of zinc ore with face of aurichalcite crystal from the same locality (55194). (See under Yankee Consolidated Mining Company.)
- LEIBERG, JOHN B., Leaburg, Oreg.: Parasitic copepods from the gills of Chinook salmon, taken at the Oregon State Salmon and Trout Hatchery on McKenzie River, Lane County, Oreg. (54505).
- LELAND STANFORD JUNIOR UNIVERSITY, Stanford University, Cal.: Type specimen of *Atherinops oregonia*, and paratypes of 6 new species of Japanese fishes (55445); type and cotype specimens of *Osmerus starksi*, 2 specimens of *O. attenuatus*, and 2 of *O. thaleichthys* (55601).
- LEOBEN, STYRIA, AUSTRIA, COLLEGE OF MINES: 106 specimens of ores from Styria (54953: exchange).
- LE ROY, G. C., Renova, Pa.: Railroad car coupling link (54394).
- LETT, R. C. W., Winnipeg, Canada (through Charles D. Walcott): Specimen of native silver from Cobalt, Ontario (54557).
- LEWIS, Miss ELEANOR. (See under Smithsonian Institution.)
- LICK OBSERVATORY, UNIVERSITY OF CALIFORNIA, Mount Hamilton, Cal.: 16 photographs of astronomical subjects from negatives taken at the Lick Observatory (54490: purchase).
- LINEN THREAD COMPANY, New York City: Specimens illustrating the manufacture of linen thread (54951).
- LITCHFIELD SHUTTLE COMPANY, Southbridge, Mass.: 4 shuttle blocks (55204).

- LITTLE BISON, The Apache Indian Agency, Whiteriver, Ariz.: Stone relics dug from some old cliff and mound dwellings on Mount Baldy, Ariz. (55128).
- LONDON, ENGLAND, BRITISH MUSEUM (NATURAL HISTORY): 6 skulls of Himalayan natives, 6 of Torres Straits Papuans, and 6 of West African Negroes (54929); 621 plants collected in British Guiana by Schomburgk (55131); a wax model of *Eurypterus* (55452). Exchange.
- LONDON, ENGLAND, VICTORIA AND ALBERT MUSEUM: Series of 57 photographs of designs by Hans Holbein of suits of armor for the Great Tournament of King Henry VIII (55565).
- LONG, The Misses, Washington, D. C.: 4 pieces of silverware, consisting of 2 dessert spoons, sugar bowl and cream pitcher (54280); piece of unknown 18th century lace, and a gold bracelet which belonged to Mrs. Isaac Chauncy Long (54878); 22 family relics (55503). Loan.
- LONG, Miss FRANCES, University of Minnesota, Minneapolis, Minn.: Specimen of *Trochilodes skinneri* from Estes Park (55371).
- LONGBACH, B. W., Millersburg, Pa.: 2 specimens of *Mutillidae* (54305).
- LONGWORTH, Mrs. ALICE, Washington, D. C.: Specimen of mino, *Eulabes* sp. (54360).
- LOOP, J. D., Long Beach, Cal.: 2 fragments of whalebone, and 13 specimens of barnacles from a humpback whale (55491).
- LUDLOW, Dr. CLARA SOUTHWAYD, Washington, D. C.: Addition of 8 family relics to "The Sutphen-Schenck-Hunt Memorial Collection" (55026).
- LYMAN, Dr. THEODORE, Harvard University, Cambridge, Mass.: 346 mammals collected on a hunting expedition to the Altai Mountains, Siberia, by Dr. Lyman, accompanied by Mr. N. Hollister (54710: collected for the Museum).
- LYNAM, Rev. JOSEPH P., S. J., Stann Creek, British Honduras: Small stone hatchet, celt (54385); three and a half vertebrae of the common Atlantic fin-back whale, *Balenopterus physalus* (55320); bottle of Cohoune oil, also some of the nuts and kernels (55644).
- LYNE, LEWIS F., New York City: A printed pamphlet containing the program of the "Forty-sixth Annual Banquet of the Lincoln Association of Jersey City, February Thirteenth, Nineteen Eleven," the front page of which bears a picture of Abraham Lincoln (55151).
- LYON, Maj. H. G., U. S. Army: 56 ethnological specimens, consisting of Filipino and other weapons, musical instruments, etc., presented by Mrs. H. G. Lyon, of Washington, D. C., in the name of the late Maj. Lyon (54747).
- McATEE, W. L., Bureau of Biological Survey, Washington, D. C.: Batrachians (54771); fishes from Plummer's Island, Md. (55004). (See under A. C. Weed.)
- McCALLIE, Prof. S. W., State Geologist, Atlanta, Ga.: About 500 specimens of Tertiary bryozoans from Georgia (55360: exchange).
- McCoy, Dr. G. W., U. S. Bureau of the Public Health, Honolulu, Hawaii: 2 specimens of annelid representing the species *Lacastis hawaiiensis*, collected by Dr. Wayou (55140).
- McDERMOTT, F. ALEX., University of Pittsburgh, Pittsburgh, Pa.: 2 adults and a larva of *Photophorus jansoni*, received from F. P. Tepson, Suva, Fiji (54466).
- McDONALD, Dr. HENRY T., Storer College, Harpers Ferry, W. Va.: Specimen of *Cheilanthes* from West Virginia (55064).
- McDONALD, WILLIAM. (See under Ernest B. Marshall.)
- MACDOUGAL, Dr. D. T., Director, Desert Laboratory, Tucson, Ariz.: 12 living specimens of Cactaceae from near Flagstaff, Ariz., collected by G. Sykes (54462).

- MACEO, DR. CARLOS MORALES**, Lima, Peru: Mummy of a child, ancient Peruvian, from near Moquegua (55393).
- McELENROSE, H.**, Iliou, N. Y.: About 24 specimens of *Lepidoptera* (54729).
- McFEE, MRS. CHARLES W.**, Washington, D. C.: Hand spinning-wheel (54642: loan).
- McGEADY, E. F.**, Baltimore, Md.: 3 valves of *Margaritana hembeli* from the Gulf States (54338).
- McGUIRE, DR. JAMES C.**, Washington, D. C.: Dr. McGuire's emergency case of poison antidotes, with booklet of instructions (55173: purchase).
- McKINNEY, J. R.**, Nacogdoches, Tex.: Specimen of *Gryllotalpa borealis* (54602).
- McNEAL, J. G.**, Sebring, Fla.: Egg of a sandhill crane, *Grus mexicana*, from Florida (55474).
- MADDREN, A. G.**, U. S. Geological Survey, Washington, D. C.: 6 specimens of trout, *Salvelinus* sp.?, collected by the donor in Joe River, a western tributary of the Firth River, Arctic Alaska (54895).
- MAGINN, MRS. JAMES**, New York City: Spanish comb which once belonged to Lola Montez (1818-1861) (54608); 18 Spanish fans of the early part of the 19th century, and one fan of the period of Louis XVI, together with 14 specimens of lace, embroidery, crochet, and bead work; also 2 oil paintings by John J. Peoli (54809: loan).
- MAINE AGRICULTURAL EXPERIMENT STATION**, Orono: 4 specimens of *Lepidoptera* (55282).
- MALLOCH, J. R.**, U. S. Department of Agriculture, Washington, D. C.: 597 specimens of Hymenoptera from Great Britain (54714); 1279 insects, mostly Hymenoptera and Diptera, from Canada and Great Britain (55240); about 1680 Diptera from Great Britain and 120 Diptera from Vietch, Va. (55545).
- MALLOCH, J. R.**, and **F. KNAB**, U. S. Department of Agriculture, Washington, D. C.: 620 insects from the vicinity of Washington (55315).
- MANABE, Prof. YOSHIRO**, Kwansei Gakuin, Kobe, Japan: Type specimen of eel, *Anguilla manabei*, and 2 specimens of *A. japonica* (54434).
- MANILA, P. I., BUREAU OF EDUCATION**: A collection of fibers, mats, baskets, hats and other handiwork, from the Philippine Islands (55625: purchase).
- MANILA, P. I., BUREAU OF SCIENCE**: 85 specimens of orchids from the Philippine Islands (54550); 1842 plants from the Philippine Islands (54862; 55132; 55356). Exchange.
- MANNING, ISAAC A.**, American consul, Barranquilla, Colombia: 2 moths, *Rothschildia bolivar* and *R. aroa* (54575; 54802).
- MARINE BIOLOGICAL LABORATORY**, Woods Hole, Mass.: Specimen of hermit-crab, *Cænobita diogenes*, from Jamaica (54844); shrimp, *Peneus setiferus*, from Charleston, S. C. (54872).
- MARLOFF, FRED**, Oak Station, Pa.: 14 specimens of Microlepidoptera (55089).
- MARSHALL, ERNEST B.**, Laurel, Md.: Scarlet tanager, *Piranga erythromelas*, from Maryland (54529); 2 skins and skulls of fox squirrel (54564); skull of a mink, *Mustela lutreola* (55137); skins and skulls of two weasels, *Mustela* (55164); specimen of marsh hawk, *Circus hudsonius*, from Laurel (55367); star-nosed mole (55427). (See under A. C. Weed.)
- MARSHALL, ERNEST B.**, and **WILLIAM McDONALD**, Laurel, Md.: Fishes, snake, *Ophibolus rhombomaculatus*, and an insect, from Crow Branch (54359).
- MARSHALL, ERNEST B.**, and **R. B. OVERINGTON**, Laurel, Md.: Leeches, reptile, *Eumeces fasciatus*, fishes, and 6 specimens, representing 2 species, of freshwater shells (54333).
- MARSHALL, GEORGE**, U. S. National Museum: Specimen of *Chamaenerion* from Maryland (54386); 2 birds from North Carolina (54883).
- MARSHALL, HENRY R.**, Halifax, N. C.: Sparrow hawk, *Falco sparverius*, from North Carolina (54884); fishes, batra-

MARSHALL, HENRY R.—Continued.

chians, turtle eggs, crustaceans, insects, birds and mammals (55058); fishes, birds, beetle, reptile, bat and a mouse (55413: collected for the Museum).

MAURY, Commander MATTHEW FONTAINE, U. S. Navy, Descendants of (through Mrs. Mary Maury Werth): Bronze medal of the Exhibition of the Works of Industry of All Nations, London, 1851, awarded to Matthew Fontaine Maury in recognition of his services to the science of navigation (55114). (See under Mrs. Mary Maury Werth.)

MAXON, W. R., U. S. National Museum: 154 plants from the central part of New York (54978).

MAYNARD, ERNEST A., Jamaica, N. Y.: 3 specimens of chiasolite (54483: exchange).

MAYNTZHUSEN, F. C., Yaguarazapa, Paraguay, South America (through Dr. Aleš Hrdlička): Ethnological specimens of the Guayaki Indians of Paraguay (55144).

MAYO, Miss KATHERINE. (See under John Ogilvie.)

MAZŮCK, W. G., Charleston, S. C.: 30 specimens of pholads from Sullivan's Island and the Isle of Palms or Long Island, S. C. (54647).

MEEK, Dr. S. E. (See under Smithsonian Institution, Smithsonian Biological Survey of the Panama Canal Zone.)

MEIGS, RETURN JONATHAN, No. 4, Washington, D. C. (through Miss Elizabeth M. Meigs and the Library of Congress): Sword which was voted by act of Congress, July 25, 1777, to Col. Return Jonathan Meigs, of the Continental Army; and a pair of knee buckles worn by Maj. Gen. Richard Montgomery, of the Continental Army (54812).

MERRILL, G. K., Rockland, Me.: 125 lichens from North America (54744: purchase).

MERRIMACK MANUFACTURING COMPANY, Lowell, Mass. (through Lawrence & Co., Boston, Mass.): Specimens of velveteen and corduroy, illustrating process of manufacture (55359).

METCALPE, T. O., Boleyn, La.: Luna moth, *Actias luna* (55207).

MILLER, GERRIT S., jr., U. S. National Museum: 103 plants from Maryland and Virginia (54912).

MILLER, HUGO H., Bureau of Education, Manila, P. I.: 3 skeins of knotted manila hemp (55551).

MISSOURI BOTANICAL GARDEN, St. Louis, Mo.: 3 photographs of *Acacia* (54838: exchange).

MITCHELL, Hon. J. D., Victoria, Tex.: A worm of the family Gordiidae (55501).

MITCHELL, MASON, American consul, Apia, Samoa: A pair of Samoan ground pigeons, *Phlogoenas samoensis* (54536); 2 eggs and a photograph of Pritchard's megapode, *Megapodius pritchardi*, from Niuafo Island, Tonga group (54611); a kava bowl with drinking cup, from Samoa, received through the Department of State (54832); specimen of *Megapodius pritchardi* collected on Niuafo Island by Capt. E. F. Allen, director, Samoa Shipping and Trading Company (54964); 3 birds and 3 eggs, from Samoa (55243).

MIXTEE, GEORGE, Boston, Mass.: Skull of a domestic sheep purchased in a market at St. Petersburg, Russia (54454); mammals, birds, reptiles, fishes, marine invertebrates, insects and plants, from Russia and Siberia (54902: collected for the Museum).

MOORE, BENSON B., Mount Rainier, Md.: Portrait of Rembrandt, attributed to himself (55556: loan).

MOORE, CLARENCE B., Philadelphia, Pa.: 7 clay objects found on the surface and in midden debris while digging at Poverty Point, West Carroll Parish, La. (55213); large pottery vessel from the Foster Place (Red River), Ark. (55386); 2 earthenware vessels from the Red River region (55398); 17 human skulls and the bones belonging to one individual, from Arkansas and Louisiana (55418); earthenware pot from a mound in Franklin Parish, La. (55530).

MOORE, HAROLD W. B., Georgetown, British Guiana: About 100 specimens of Lepidoptera (55135).

- MORRIS, B. V., Rockbridge, Mo. (through E. O. Ulrich, U. S. Geological Survey): Specimen of sun-cracked rock filled with wind-blown sand (54999).
- MOTTIER, D. M., Indiana University, Bloomington, Ind.: Specimen of *Dryopteris*, in cultivation (55357).
- MOULTON, Dr. W. B., Portland, Me.: 2 tourmaline crystals from Auburn, Me. (55361).
- MUIR, FREDERICK, Hawaiian Sugar Planter's Association Experiment Station, Honolulu, Hawaii: 200 specimens of *Paranagrus optabilis* and *Ootetrastichus beatus*; also an Ascidipter from Amboina (54288).
- MULFORD, Rev. J. N., Palm Beach, Fla.: Bag-worm, *Oiketicus abbotti* (54686).
- MUNDER, NORMAN T. A., AND COMPANY, Baltimore, Md.: 5 photomechanical half-tone reliefs (55602).
- MUNROE, Mrs. CHARLES E., Washington, D. C.: Manuscript of an address by Dr. George F. Barker, entitled "The Place of Joseph Henry Among Men" (55599).
- MURDOCK & GEE COMPANY, Franklin, Mass.: 2 Murdock bobbin holders (54452).
- MURPHY, JAMES J., San Diego, Cal.: Specimen of Pacific salamander, *Batrachoseps pacificus* (54278).
- MURRAY, Dr. J. D., Washington, D. C.: Specimen of Cooper's hawk, *Accipiter cooperi* (55148).
- MUSEO NACIONAL. (See under San José, Costa Rica.)
- MUSEU GOELDI. (See under Pará, Brazil.)
- MUSEUM OF COMPARATIVE ZOOLOGY. (See under Cambridge, Mass.)
- MUSÉUM D'HISTOIRE NATURELLE. (See under Paris, France.)
- MUSGRAVE, Mrs. FRANCES E., Washington, D. C.: An oil painting on a mahogany panel, "Death Preferred," by J. Van Lierus (54679: loan).
- MYERS, P. R., U. S. National Museum: Flint scraper found in the Virginia woods opposite Plummer's Island (54572); 157 insects from Washington, D. C., and vicinity, Maryland, and West Virginia (54574; 54871; 55238).
- MYERS, Mrs. P. R., Washington, D. C.: 2 bullets and 4 arrowpoints, found by the donor on Bull Run battlefield, Va. (54571).
- NATIONAL AND PROVIDENCE WORSTED MILLS, Providence, R. I. (See under American Woolen Company.)
- NATIONAL ASSOCIATION FOR THE HISTORY OF ITALIAN UNITY, Rome, Italy (through the President of the United States): A stone from the wall of Servius Tullius, at Rome, to replace the one which was forwarded as a tribute to President Lincoln by the National Roman Committee in 1865, but was lost in transit (55068).
- NATIONAL SILK DYEING COMPANY, Paterson, N. J.: Silk fabrics and yarns illustrating the application of color to silk (55134).
- NATIONAL SOCIETY OF THE COLONIAL DAMES OF AMERICA, Washington, D. C.: A framed piece of embroidery, 1785, belonging to Mrs. Quincy O'M. Gillmore of New York (55115); 2 framed pictures done in embroidery, lent by Mrs. Frederic F. Thompson of New York (55258). Loan.
- NATIONAL SOCIETY OF THE DAUGHTERS OF THE AMERICAN REVOLUTION, Washington, D. C.: An antique German casket bearing date of 1660 and presented to the Society by Miss Harriet V. deB. Keim (55569: loan).
- NATTRESS, THOMAS, Amherstburg, Ontario, Canada: 800 specimens of Paleozoic invertebrate fossils and minerals, from the Detroit River series and other formations of Canada (54896: purchase).
- NEBRASKA, UNIVERSITY OF, DEPARTMENT OF ENTOMOLOGY, Lincoln, Nebr.: 80 named bees, including 20 paratypes of 12 species (54554).

- NEILL, AARON S. (through Dr. H. Neill, Sibley, Iowa): Pitted stone from an Indian camp site in Minnesota (54582).
- NELSON, JOHN L., Surgeon, U. S. Navy, Washington, D. C.: A pandanus hat worn by the Moros of the plateau region of Mindanao, P. I. (55506).
- NELSON, Dr. AVEN, University of Wyoming, Laramie, Wyo.: 4 living specimens of *Pediocactus simpsonii* from Wyoming (55537).
- NELSON, CARL, Washington, D. C.: Moth from Washington (54396).
- NEVADA, UNIVERSITY OF, Reno, Nev.: 67 plants from Nevada and California (54535); 7 specimens of *Trifolium* from California (55331). Exchange.
- NEWCOMB, Mrs. SIMON, Washington, D. C.: The button of the Prussian decoration "Pour le Merite," which was conferred upon Prof. Simon Newcomb by the German Emperor in 1906, consisting of a black enamel shank and a small bow of black and silver ribbon (55244: loan).
- NEW MEXICO COLLEGE OF AGRICULTURE AND MECHANIC ARTS, State College, N. Mex.: Type specimen of *Quercus confusa* (55499: exchange).
- NEWTON, CHARLES H., Washington, D. C.: Weston incandescent electric lamp, 70 volts; 2 Weston snap-switches; Weston fuse box; Edison switch; primitive electric light switch; and Edison plug cutout (54383).
- NEW YORK BOTANICAL GARDEN, Bronx Park, New York City: Moss from Guatemala (54295); 2,889 plants, including ferns and Cactaceae, chiefly from the West Indies (54404; 54408; 54441; 54620; 55226; 55364; 55477; 55495; 55513; 55575; 55638); 10 specimens of plants and 12 photographs (54458); photographs and fragments of 3 type specimens of *Lycopodium* from South America (54606); specimen of *Hydrocotyle verticillata* (54697); 17 specimens of Cactaceae and 2 photographs (54784; 54898; 55036; 55538); 38 living specimens of Cactaceae (54629; 54909; 55042); 417 plants mainly from Utah (55183); 120 plants collected in Bolivia by Buchtien (55193). Exchange.
- NEW YORK COMMERCIAL COMPANY, New York City: 22 samples of commercial grades of rubber (54794).
- NICHOLS, FRED. C., Balboa, Canal Zone: Larva of a moth of the family Megalopygidae (54421).
- NICHOLS, Mrs. J. R., Bedford, Va.: Beetle, *Lucanus elaphus*, from Bedford (55502).
- NICHOLS, JOHN T., American Museum of Natural History, New York City: 22 specimens of Cuban crustaceans (55208).
- NICOL, Prof. WILLIAM, School of Mining, Kingston, Ontario: A piece of garnet rock (54685: exchange).
- NIEUWLAND, Rev. J. A., Notre Dame, Ind.: 77 plants from Indiana (55241).
- NIVEN, WILLIAM, Mexico, Mexico (through Harry S. Bryan): Pictographic record on cocconut fiber, from Manzanillo, Mexico; and a painting of St. Augustine, on canvas, inlaid with pearl shells (54644: loan).
- NORTH, H. B., Rutgers College, New Brunswick, N. J.: 6 specimens of limonite after marcasite (54516: exchange).
- NOTRE DAME, UNIVERSITY OF, Notre Dame, Ind.: 55 plants, chiefly duplicate types, from Indiana (54276; 54416: exchange).
- O'BERN, JOSHUA H., Kittanning, Pa.: 12 specimens of *Polygyra albolabris* from Pennsylvania (54615).
- OGILVIE, JOHN (through Miss Katherine Mayo, New York City): 115 ethnological specimens from Dutch Guiana (55609: purchase).
- OHIO STATE UNIVERSITY, Columbus, Ohio: 16 neotropical dragonflies, received through Philip P. Calvert (54326); fern from Guatemala (54579). Exchange.
- OKLAHOMA, UNIVERSITY OF, Norman, Okla.: 8 specimens of phyllopod crustaceans, *Estheria* (54725).
- OLDROYD, Mrs. T. S., Long Beach, Cal.: Specimen of *Haliotis corrugata* from California (55063).
- OLIVER, GEORGE W., U. S. Department of Agriculture, Washington, D. C.: 12 plants collected in the Royal Botanic Garden, Edinburgh, Scotland (54891).

- ORCUTT, C. R., San Diego, Cal.: Shells from various localities in Mexico (54952); 2 specimens of Mexican bat, *Balantiopteryx plicata* (55030); 5 living specimens of Cactaceae collected in Mexico (55289); land, fresh-water, and marine shells from northern Mexico and Texas (55508; 55612).
- OSBORNE, N. M., Norfolk, Va.: Sponge from Cape Henry, Va. (55073).
- OVERINGTON, R. B. (See under Ernest B. Marshall.)
- PACIFIC MILLS, Lawrence, Mass. (through Lawrence & Co., Boston, Mass.): A collection of cotton piece goods and 89 old Hamilton Print Works sample books (55517).
- PAGE, THOMAS NELSON, Washington, D. C.: A collection of Greek, Roman, and Egyptian antiquities (55566: loan).
- PAINTER, J. W., Washington, D. C.: Carbon print and 6 old silver albumen prints, all undated (55097).
- PALERMO, ANTONY, Washington, D. C.: Rudely carved coiled serpent in diorite from Mexico (54402).
- PALMER, Lieut. Commander LEIGH C., U. S. Navy, Navy Department, Washington, D. C.: English verge watch in a double silver case (55199: loan).
- PALMER, WILLIAM, U. S. National Museum: Fishes, fossils, crabs, an annelid, and insects, from Calvert County, Md. (54455).
- PALMER, WILLIAM, and A. C. WEED: Fishes, invertebrates, fossils, and insects, collected in Calvert County, Md., by Mr. Palmer, Mr. Weed, William Wallis, and E. M. Hasbrouck (54315).
- PANAMA-CALIFORNIA EXPOSITION OF SAN DIEGO, San Diego, Cal. (through Aleš Hrdlička): 34 skulls and 8 skulls with skeletons, of the gorilla and chimpanzee (55584: exchange).
- PANAMA CANAL ZONE, BIOLOGICAL SURVEY OF:
The material collected through the cooperation of the Smithsonian Institution, the Department of Agriculture,
- PANAMA CANAL ZONE—Continued.
the Bureau of Fisheries, and the Field Museum of Natural History is accessioned and referred to in detail under the following headings:
Agriculture, Department of, Bureau of Biological Survey (54293; 54301; 54339; 54351; 54424; 54480).
Smithsonian Institution, Biological Survey of the Panama Canal Zone (54622).
- PARÁ, BRAZIL, MUSEU GOELDI: 2 plants from Brazil (54944: exchange).
- PARAMARIBO, SURINAM, DEPARTEMENT VAN DEN LANDBOUW (through J. Kuyper): 35 plants, mainly ferns, from Surinam (55106: exchange).
- PARIS, FRANCE, MUSÉUM D'HISTOIRE NATURELLE (through E. L. Bouvier): 3 specimens of isopod, *Leptanthura truncata* (54971); 23 specimens, representing 9 species, of Atyidae (55084: exchange).
- PARISH, S. B., San Bernardino, Cal.: 3 specimens of *Populus macdougalii* collected in Salton Basin, Cal. (55273); 2 specimens of *Selaginella* from Arizona (55307); living specimen of *Opuntia* from Mill Creek Canyon, Cal. (55496).
- PARKINSON, G. A., Marble Falls, Tex.: Specimen of gadolinite in granite (54649).
- PARKS, Prof. W. A., University of Toronto, Toronto, Canada: 12 specimens of fossil corals from the Niagara formation of Canada (54789).
- PARROTT, Prof. P. J., New York Agricultural Experiment Station, Geneva, N. Y.: Specimen of *Yponomeuta malinellus* bred from apple and one of *Y. padellus* bred from cherry (54949).
- PARTRIDGE, B. W., jr., Huntington, W. Va.: Beetle, *Lucanus elaphus* (54312).
- PATCHELL, JAMES, Knik, Alaska: Skin and skeleton of a coney, *Ochotona* (54503); incomplete skeleton of a coney (55438).
- PAYNE, Miss S. K., Elmira, N. Y.: Model of a papoose made by a child of the Apache tribe of Indians at Oklahoma (55435).

- PEABODY MUSEUM OF NATURAL HISTORY, YALE UNIVERSITY, New Haven, Conn.: 56 specimens of Mesozoic sponges, representing 47 species (54341: exchange); 2 specimens of isopod, *Idothea pelagica* and *Cubaris pisum* (54839).
- PEARSE, Dr. A. S., University of Wisconsin, Madison, Wis.: 6 crabs from Nahant, Mass. (54765).
- PEARY, Rear Admiral ROBERT E., U. S. Navy (retired), Washington, D. C.: Special gold medal inscribed "The Peary Arctic Club to R. E. Peary, April 6, 1912"; gold medal inscribed "L'Academie des Sports à L'Amiral Robert E. Peary, 1911"; and a trophy (gold, silver and bronze design on oak tablet) inscribed "Presented to Commander Robert E. Peary, C. E., U. S. N., Discoverer of the North Pole, April 6, 1909, by the Canadian Camp of New York City, March 5, 1910" (55161: loan).
- PENNINGS, G. J., Bahrein, Persian Gulf: About a dozen cases of a bag-worm belonging to the family Psychidæ (54291).
- PENNINGTON, P. M., Pattersons Creek, W. Va.: 11 arrowpoints found on Big Capon River, near Yellowspring, Hampshire County, W. Va. (54761).
- PERADENIYA, CEYLON, ROYAL BOTANIC GARDENS: Trunk of a Para rubber tree, *Hevea brasiliensis* (54816).
- PERKS, Mrs. FRANK, Harrison, Cal.: Abnormal "double" egg of a domestic fowl (55223).
- PHILLIPS, Dr. ALEXANDER H., Princeton University, Princeton, N. J. (through George F. Kunz): A series of carnotide separations (55412).
- PICKETT, THEODORE J., Washington, D. C.: 9 Mexican antiquities (54670: purchase).
- PILSBRY, Dr. H. A., Academy of Natural Sciences, Philadelphia, Pa.: 2 specimens of *Holospira* from Texas (54638).
- PINCHOT, Mrs. JAMES W. (See under Mrs. William Phelps Endo.)
- PINCKNEY, EDWARD RUTLEDGE, Charleston, S. C. (through Mrs. Julian James, Washington, D. C., and Mrs. C. Albert Hill, Charleston, S. C.): A skirt and Watteau overskirt of yellow American-raised silk (54297: loan).
- PINCKNEY, Capt. THOMAS, Charleston, S. C. (through Mrs. Julian James and Mrs. C. Albert Hill): Christening robe and mantle of Maj. Gen. Thomas Pinckney, U. S. Army, born in Charleston, S. C., in 1750; and an embroidered coat and waistcoat worn by him as ambassador to the Court of St. James in 1794, during President Washington's second administration (54298: loan).
- PINTO, Dr. CARLOS DE CERQUEIRA, Pará, Brazil: 3 small specimens of rubber coagulated by the donor's smokeless process (54819).
- PIPER, Prof. C. V., U. S. Department of Agriculture, Washington, D. C.: Plant from Washington (54317); 15 plants from Oregon and a fragment of the type of *Sagittaria latifolia* (54417); 14 plants from Washington, collected by E. Bartholomew (55211); specimen of *Selaginella* from Virginia (55377).
- PITTLE, Dr. G. W., Carlisle, Ind.: Specimen of *Corydalis cornuta* (54432).
- PITTIER, Prof. H., U. S. Department of Agriculture, Washington, D. C.: 69 plants from Panama and Costa Rica (54626); 16 plants from Panama, collected by Brother Celestine (54860); 25 living specimens of plants, mostly Cactaceæ, from Venezuela (55276; 55469; 55535: collected for the Museum); 4 living specimens of *Pereskia* from Venezuela (55639).
- PITTSBURGH, UNIVERSITY OF, Pittsburgh, Pa.: 5 models of Paleozoic fishes and crustaceans (55344: exchange).
- POLLARD, JAMES H., Denton, Md.: Abnormal egg of a domestic fowl (54531).
- POLLOCK, Mrs. JOHN S., Washington, D. C.: Skin and skull of a ground squirrel (55475).

- POORE, Mrs. TOWNSEND (through G. B. Poore, Scranton, Pa.): Walking-beam of the locomotive "Stourbridge Lion" (55587).
- POPE, M. W., Baltimore, Md.: 45 plants from Arctic Alaska (54805); beetles from the International Boundary between Rampart House and the Arctic Ocean, received through J. M. Jessup (54992).
- PORTER, Prof. CARLOS E., Santiago, Chile: 15 specimens of Diptera, 2 of Coleoptera and a specimen of fungus (54903); invertebrates from Chile (55263).
- POST OFFICE DEPARTMENT: A copy each of the parcel post maps of the United States and Hawaii, used in connection with the establishment of this service on January 1, 1913. These maps were among the first to be printed, and bear the autograph of the Postmaster General (54751); 44 sets of specimen stamps, etc., 43 of which are in duplicate (approximately 11,300 specimens), received from the International Bureau of the Universal Postal Union, Berne, Switzerland (55009; 55145; 55147; 55182; 55284; 55394; 55568); 1 each of the 7 new Canadian postage stamps, and 50 Newfoundland stamps of various denominations (55147); 2 sets of 12 specimen stamps each, of various denominations, issue of 1912, commemorative of the revolution, and foundation of the Republic, received from the Director of Posts, Peking, China (55284); 88 U. S. postage stamps of various issues; and 125 U. S. stamped envelopes, in current use in 1888 (55394); 2 sets of specimen stamps, etc. (288 items), received from the Director General of Posts and Telegraphs, Argentine Republic; and a set of 32 Honduras stamps (55018); 9 albums of die proofs and postage stamps (55118); bound copy of the Parcel Post Regulations, with the autograph signature of Postmaster General Hitchcock (55159).
- POWELL, Prof. S. L., Salem, Va.: 50 specimens of early Silurian fossils from Virginia (55000); 100 specimens of Upper Ordovician fossils from central western Virginia (55295).
- PRESCOTT, JOHN S., U. S. National Museum: Incandescent electric lamp with key socket (54348).
- QUEHL, Dr. L., Halle (Saale), Germany: 2 living specimens of *Mamillaria kunzeana* (54707); specimen of *M. dume-torum* (55423); 2 living specimens of *Mamillaria* (55468; 55549). Exchange.
- QUINN, Dr. I. SANTIAGO CARDWELL, Pará, Brazil: Specimens of rubber and Ceará rubber tree flowers and fruits (54820).
- RACOVITZA, Dr. E. G., Laboratoire Arago, Banyuls-sur-mer, France: 9 specimens, representing 5 species, of cave isopods (54566: exchange).
- RAMOS, RAMON, Y CASSELLOS, Arecibo, P. R. (through Robert Craig Greene, Washington, D. C.): A Spanish bond, Island of Porto Rico, 1876 (54641).
- RAMSDEN, CHARLES T., Guantanamo, Cuba: 13 bats from Cuba (54915; 55590); 2 specimens of *Poliophtila lembeyi* from Cuba (55087).
- RATHBUN, Miss MARY J., U. S. National Museum: 2 specimens of orchid, *Hexa-lectris*, and a snake, from Virginia (54449; 54515; 54518).
- RAVENEL, T. W., Green Pond, S. C.: Skull of a deer (54914).
- RAVENEL, W. DE C., U. S. National Museum: 1 deer skin, 2 fox skins, and skull of a fox (54842).
- REA, ARCHIBALD, Tajique, N. Mex.: A small collection of mammal bones from a cave in the Manzano mountains (55409).
- REHLEN, Dr. W., Nürnberg, Germany: Collection of European archeological specimens (55321: exchange).
- REINKE, Rev. THEODORE, York, Pa.: Skin of kinkajou, *Potos flavus* (54688).
- REISER, GEORGE WILLIAM, Baltimore, Md.: A musical instrument, combined bass drum and cymbal pedal beater (54756).
- REMINGTON TYPEWRITER COMPANY, New York City: Typewriter, model No. 1, Remington machine (54877).

- RICE, ARTHUR P., Progreso, Yucatan (through Edwin Thompson, Waverley, Mass.): A Maya rattle (55396).
- RICE, B. W., Caldwell, Idaho: Vertebra and jaw fragments, with teeth, of a fossil fish, *Mylocyprinus robustus* (54995).
- RICE, C. S., Lawrenceburg, Ky.: 2 luna moths, *Actias luna* (55309).
- RICHARDS, A., University of Texas, Austin, Tex.: 14 specimens of *Planorbis lentus* from Austin (55437).
- RICKER, P. L., U. S. Department of Agriculture, Washington, D. C.: 3 fungi from the Philippine Islands (54815).
- RICKETTS, H., Princeton, N. J.: Specimens of *Macrosiphonia brachysiphon* from Mexico (54830).
- RIDGWAY, ROBERT, U. S. National Museum: 4 snakes representing 2 specimens of *Eutania sirtalis* and a specimen each of *Lampropeltis sayi* and *L. calligaster*; 3 young toads, *Bufo americanus*; and a bat, *Nycteris cinerea*, all from Illinois (54552); mammal skin, bird skins, reptiles, insects, crayfish with young, and a plant in alcohol, from Olney, Ill. (54852); specimen of red-headed woodpecker, *Melanerpes erythrocephalus* (55380).
- RIGGIN, Miss AUGUSTA A., Sharptown, Md.: 2 specimens of sand-dollar, *Mellita pentapora*, from Wallops Island, Va. (55138).
- RIKSMUSEETS, BOTANISKA AFDELNING. (See under Stockholm, Sweden.)
- RILEY, J. H., U. S. National Museum: 4 specimens, skins and skulls, of *Sciurus* (54850); 5 bird skins, chiefly from tropical America (55358); 4 skins of crow, *Corvus brachyrhynchos*, from Virginia (55379); 11 bird skins from Virginia and South Carolina (55579).
- RITTER, Dr. WILLIAM E., University of California, Berkeley, Cal.: 10 specimens of Ascidian, *Halocynthia johnsoni*, from San Diego Bay (55219).
- RIXEY, Mrs. PRESLEY M., Washington, D. C. (through Mrs. Julian James): Chinese fan, in box, brought from China
- RIXEY, Mrs. PRESLEY M.—Continued.
by Mrs. Rixey's father, Admiral English; pair of slippers knit by Mrs. William McKinley and presented by her to Mrs. Rixey (54310: loan).
- ROACH, Mrs. MARY J., Washington, D. C., C. G. BROWN, Texarkana, Tex., Mrs. A. R. SMITH, Glenside, Pa., Mrs. JOHN R. GRAY, Kinsale, Va., Miss KATHERINE BROWN, Chemawa, Oreg., Miss JULIA G. BROWN, Washington, D. C.: Diploma of Doctor of Medicine, conferred upon Gustavus Richard Brown of Maryland in 1768, by the University of Edinburgh, Scotland (54299).
- ROBERTSON, A. D., University of Toronto, Toronto, Canada: 100 specimens of fresh-water shells, representing 20 species, from various localities in Georgian Bay, Lake Huron (55285).
- ROBERTSON, W. R. B., University of Kansas, Lawrence, Kans.: 11 specimens of Orthoptera from Jamaica (55406).
- RODGERS, JAMES L., American consul general, Habana, Cuba (through Department of State): Specimen of weathered limestone containing a nodule of black flint or chert (54398).
- RODGERS, Hon. W. C., Nashville, Ark.: A flint blade and 2 sinkers, from the vicinity of Nashville (54281).
- ROSE, Miss JESSIE P., Crystal, Oreg.: 10 living specimens of *Gormanina* from Oregon (54631).
- ROSE, Dr. J. N., U. S. National Museum: Lizard, *Holbrookia maculata*, from Kansas (54623).
- ROSENDAHL, Prof. C. O., University of Minnesota, Minneapolis, Minn.: 6 plants from Minnesota (55013); 21 photographs of flowers of *Mitella* (55443).
- ROSENSTOCK, Dr. E., Gotha, Germany: 272 ferns, including 2 from Costa Rica (54814; 55421). Exchange.
- ROSSITER, Dr. T. J., Washington, D. C.: An anatomical specimen (55327).
- ROSSON, Mrs. ELIZABETH W., Alexandria, Va.: Specimen of Chinese virgin tea (55614).

- ROSSWORM, V., Cumberland, Md. (through F. X. Millman): Nest of a Baltimore oriole, *Icterus galbula*, from Maryland (55216); pelt of a "double-faced calf" (55306).
- ROTHERT, Dr. W., Cracow, Austria: 24 plants from Europe (54519: exchange).
- ROUSSELET, CHARLES F., London, England: 29 microscopic slides of Rotifera (7th and 8th instalments) (54800; 55591). Purchase.
- ROYAL BOTANIC GARDENS. (See under Kew, London, England.)
- ROYAL BOTANIC GARDENS. (See under Peradeniya, Ceylon.)
- RUTH, ALBERT, Polytechnic, Tex.: 450 plants from the District of Columbia and vicinity (54377); 5 plants from Texas, including a living specimen of *mamillaria* (55494; 55622).
- SACKER, HERBERT, Toledo, Ohio: 50 stone implements from the vicinity of Toledo (54931).
- ST. PETERSBURG, RUSSIA, KAISERLICHER BOTANISCHER GARTEN: 269 plants, including 60 specimens of Sapotaceae and 98 specimens of Cassia, collected in Brazil by Riedel (55203; 55271; 55378). Exchange.
- SAMSON, Mrs. CLARISSA W. (through Miss Edith Samson, West Medford, Mass.): A colonial winnowing-fan (54513).
- SANDERS, Prof. J. G., University of Wisconsin, Madison, Wis.: 2 specimens of Coleoptera, *Dendroides canadensis*, and 2 specimens of Diptera, *Xylophaga* sp.? (54388).
- SANFORD, Dr. L. C., New Haven, Conn.: Type of a new subspecies of red cross-bill, *Loxia curvirostra perna* (54788); 23 bird skins, chiefly from Alaska (54975); type specimen of *Micropallas whitneyi sanfordi*, from Lower California (55481).
- SAN JOSÉ, COSTA RICA, MUSEO NACIONAL: 21 living specimens of Cactaceae, including 2 specimens of *Cereus aragoni* (55037; 55478). Exchange.
- SAUM, T. J. (See under E. E. Bennett.)
- SAUNDERS, PAUL, Washington, D. C.: Water-snake from the District of Columbia (55298).
- SAUQUOIT SILK MANUFACTURING COMPANY, Philadelphia, Pa.: A Jacquard machine (600 hook, single lift, Crompton Knowles) (55300).
- SCHAFFNER, CHARLES E., Washington, D. C.: Parrot, *Amazona panamensis* (55176).
- SCHLÜTER, WILHELM, Halle a. Saale, Germany: 2 skins and skulls of *Rupicapra rupicapra* from Switzerland (54321: purchased from the Harrison fund).
- SCHMID, EDWARD S., Washington, D. C.: Specimen of guinea fowl, *Numida mitrata*? (54787); hybrid between a European goldfinch and a canary (55104); parrot, *Amazona panamensis* (55175); parrot, *Amazona virenticeps* (55196); skin and skull of a Japanese dog (55354); copperhead snake from Great Falls (55645).
- SCHMID, Miss FLORENCE, Washington, D. C.: Skin and skull of a domestic dog "Wallie" (55152).
- SCHOENRICH, OTTO, Washington, D. C.: Mounted specimen of quetzal, *Pharomachrus mocinno*, from Nicaragua (55634).
- SCHOETENSACK, Prof. Dr. OTTO, Universität Heidelberg, Heidelberg, Germany: 2 plaster casts (one colored and one white) of the *Homo heidelbergensis* jaw (54780).
- SELIGMANN, Dr. C. G., London, England: 47 photographs of the Nubas of southern Kordofan, and 8 of skulls of natives of New Guinea (54881).
- SENGE, Baron, Idzumo Temple, Idzumo, Japan (through Stewart Culin, Brooklyn Institute Museum, Brooklyn, N. Y., and N. Tsuda, directorial assistant of the Imperial Museum at Tokyo): Sacred fire-drill and hearth from the Idzumo shrine, Temple of Idzumo (55052).

- SHANNON, RAYMOND C., U. S. Department of Agriculture, Washington, D. C.: Brown bat, *Eptesicus fuscus* (55250); about 25 dipterous larvae collected around Washington (55311); belted kingfisher, *Ceryle alcyon*, from Washington (55349).
- SHAW, E. W., U. S. Geological Survey, Washington, D. C.: About 30 specimens, representing 7 species, of Loess fossils from Weston, Mo. (55515).
- SHELDON, F. B., Ashland, Va. (through Frank L. Hess): 7 pieces of zircon sandstone (54296).
- SHELDON, JOE, La Porte, Tex.: Rhinoceros beetle, *Stratejus julianus* (54488).
- SHELFORD, V. E., University of Chicago, Chicago, Ill.: Isopod, *Porcellio rathkei*, from Riverside, Ill. (54827).
- SHERMAN, FREDERIO FAIRCHILD, New York City: Oil painting, "Twilight after Rain," by Norwood Hodge MacGilvary, presented in memory of Eloise Lee Sherman (55200).
- SHIMEK, Prof. B., Iowa City, Iowa: 7 specimens (cotypes) of *Succinea witteri* from Iowa City (55157).
- SHIMER, Prof. HERVEY W., Massachusetts Institute of Technology, Boston, Mass.: Type specimen of a fossil sponge, *Caeloptychium f. jerseyense* (55433).
- SHIREY, B. EARL, Clearfield, Pa.: Moth, *Telea polyphemus* (54374).
- SHOEMAKER, CLARENCE R., U. S. National Museum: Invertebrates from Chesapeake Bay (54524).
- SHUFELDT, Dr. R. W., Washington, D. C.: Spider, *Pachylomerus audouini* (54389); 5 lizards from California, a snake from New Jersey, and one from an unknown locality (54423).
- SILBERLING, A. C., Progress, Mont.: A collection of Fort Union (early Tertiary) mammals, containing about 400 specimens (54906: purchase).
- IMON, JOSEPH, New York City: 5 coins (55533).
- SIMPSON, CHARLES T., Little River, Fla.: Specimen of *Pleurodonte auricoma*, a descendant of specimens introduced from Cuba by the donor and now acclimated near Little River (54763); claw of a land-crab, *Cardisoma guanhumí*, from Little River (55341).
- SIMPSON, W. W., Taichow, Old City, Kansu, China: 3 skins and skulls of deer and a leopard skin (54916: purchase).
- SJÖSTEDT, Prof. YNGVE, Naturhistoriska Riksmuseet, Stockholm, Sweden: Specimen each of *Oedemagena tarandí* and *Cephenomyia trompe* (55631).
- SMART, JAMES A., U. S. National Museum: Specimen of common mole, *Scalopus* (54560); flying-squirrel, *Sciuropterus* (54666); 3 raccoon skulls, 4 opossum skulls, 2 skunk skulls, mink skull, squirrel skull, rabbit skull, and a deer skull, all from the southern part of Virginia (54854).
- SMITH, Mrs. A. R. (See under Mrs. Mary J. Roach.)
- SMITH, Rev. AUGUSTUS (through Robert A. Smith, Washington, D. C.): A piano manufactured by Torp and Unger, of New York City, sometime previous to 1840 (55527).
- SMITH, Prof. FRANK, University of Illinois, Urbana, Ill.: 23 specimens, representing 12 species, of earthworms (54917: exchange).
- SMITH, Dr. HUGH M., Bureau of Fisheries, Washington, D. C.: 44 specimens of *Helix nemoralis* from Denmark (54648); 12 photographs of algae and 50 algae from Japan (54943); admission card to the Senate gallery, used at the time of the impeachment of President Andrew Johnson, in 1868 (55011).
- SMITH, MAXWELL, Hartdale, N. Y.: 35 specimens, representing 7 species, of recent shells from various localities (55500).
- SMITH, MILLARD H., Candler, N. C.: Quartz arrowheads and fragments (55237).

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Movement of a pneumatic clock made by A. Hahl and Company, which was in use in the Smithsonian building about 20 years ago (54343); mammals and birds collected in Canada by Sidney Walcott and H. H. Blagden (54888); 5 china plates (known as "George Washington plates") presented to the Institution by Mrs. J. B. Foraker (55044); 502 flower studies in water color, painted by Miss Adelia Gates; a photograph of Miss Gates; and a book entitled "The Chronicles of the Sid, or the Life and Travels of Adelia Gates," by Adela E. Orpen, presented to the Institution by Miss Eleanor Lewis (55181); 81 plants from Central America, received from Capt. John Donnell Smith (55227; 55308); a block of Newland limestone from the Algonkian terrane near White Sulphur Springs, Belt Mountains, Mont. (55616).

Smithsonian Biological Survey of the Panama Canal Zone: 29 specimens of mollusks, chiefly cephalopods in alcohol, from the Isthmus of Panama (both oceans), collected by S. E. Meek, of the Field Museum of Natural History, and S. F. Hildebrand, of the Bureau of Fisheries (54622).

Bureau of American Ethnology: 6 photographs taken by A. J. Horswill, San José, Mindoro, P. I., among the natives of Mindoro Island; presented by Munn and Company, New York City (54311); a sacred pack of the Fox Indians of Iowa (54465); 5 pieces of cotton painted with Assyrian subjects (54691); sacred looms and burden straps of the Osage Indians, collected by Francis La Flesche (54798); 3 fragments of Indian pottery found at Red Willow, Nebr., by Mrs. Ada Buck Martin (54933); 2 ethnological objects from the natives of British Guiana, presented to the Bureau by Dr. Walter Roth, Pomeroon River, British Guiana (55234); stone and bone implements, pottery fragments and human bones, from ancient shell heaps and camp sites near Brooklin, Me., collected by Frank Hamilton Cushing in 1896 (55260); a set of five plum-seed gaming

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dice of the Omaha Indians, and a bottle of seeds used by the Omahas as a perfume, presented to the Bureau by Francis La Flesche (55323); a pair of Osage ceremonial moccasins and an Osage ceremonial "pipe," presented to the Bureau by Mr. La Flesche (55420); human skull and part of another, found in a shell-bank near Port Arthur, Tex., and presented to the Bureau by Mrs. Bruce Reid of that place (55586).

National Museum, collected by members of the staff: Bartsch, Paul: Specimen of alga from the Gulf of California (54596); 6 living specimens of Cactaceæ from Florida (55472); invertebrates from the Florida Keys (55487). Bassler, R. S.: About 1,000 specimens of Lowest Silurian fossils from southwestern Ohio (54340); about 500 Lower Ordovician fossils from Maryland (54548); weathered limestone products from Maryland (54551); 100 Ordovician fossils from western Maryland (55342). Bean, B. A.: Fishes and crustaceans from the Susquehanna River (54469); 2 specimens of *Gerres* (54973). Gidley, J. W.: About 100 specimens, representing 24 species, of fossil mammals from a cave deposit near Cumberland, Md. (54768). Gilmore, C. W.: Carapace of a turtle from Livingston County, Mich. (55629). Holmes, William H.: Relics from a village site on the bank of Buckhead Creek, Burke County, Ga., 12 miles west of Waynesboro, and from a mound 12 miles below Columbia, S. C., on the left bank of the Congaree River (55401). Hrdlička, Aleš: 205 skulls of Mongolians; 14 skulls and a skeleton with skull, of Buriats (54928). Maxon, William R.: 100 plants from Maryland (54549). Merrill, George P.: 4 specimens of so-called "golden granite" from Peekskill, N. Y. (54472); 2 specimens of olivine diabase from Lewiston, Me., and 4 of pegmatitic rock in gneiss and carrying graphite from Yarmouth, Me. (54474); a snake and a fish from Sheepscot Bay, Me. (54496); 2 specimens of igneous rock from Boothbay, Me. (54497). Miller, Gerrit S., jr.:

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Specimen of star-nosed mole (55405). Palmer, William: Fishes and crustaceans, from Plum Point and Plum Point Creek, Md. (54543); specimen of *Gerres* (54972). Ridgway, R.: Frog, *Rana areolata*, from Illinois (54314). Rose, J. N.: 200 plants obtained in Europe (54436); 6 living specimens of *Opuntia opuntia* from near Great Falls, Va. (54698); 7,000 plants, 3 fishes, 14 reptiles and batrachians, 6 vials of entomotrachea, a crab, and 3 packages of shells, from the West Indies (55447). Russell, P. G.: About 500 insects from the West Indies (55312). Smart, James A.: Specimen of *Eptesicus fuscus* (55404). Weed, A. C.: Young box tortoise from Maryland (55485). Wood, Nelson R.: Toad and 28 lizards, from Florida (55112; 55248).

National Museum, made in the Anthropological Laboratory: 3 casts of a double mortar found in Montgomery County, Mo., and now owned by Mr. C. E. Johnson, of Montgomery City, Mo. The original is made of stalactite, the face being ornamented with intersecting incised lines (54494); 1 cast each of 3 ear disks, a chipped axe, and an inscribed round stone, belonging to Mrs. William H. Johnson, Springfield, Mo. (54577).

National Zoological Park: Coney, *Procyon capensis*; lynx, *Lynx rufus*; peccary, *Dicotyles tajacu*; beaver, *Castor canadensis*; baboon, *Papio cynocephalus* (54304); barn owl, *Aluco pratincola* (54356); 2 young polar bears, *Thalarctos maritimus*; American marten, *Mustela americana*; bontebok, *Damaliscus pygargus*; Bennett's wallaby, *Macropus ruficollis bennetti*; rough fox, *Canis cancrivorus*; American bison, *Bison americanus*; fur seal, *Callorhinus ursinus* (54987); roseate spoonbill, *Ajaia ajaja*; 2 specimens of European flamingo, *Phoenicopterus roseus*; 2 specimens of bleeding-heart pigeon, *Phlogoenas luzonica*; cut-throat finch, *Amadina fasciata*; Victoria crowned pigeon, *Goura victoria*; Vera Cruz troupial, *Icterus gularis*; 2 skins of black-headed finch, *Munia atricapilla*; Lady Gould's finch, *Pezophila gouldiae*; 2 specimens of

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snow pigeon, *Columba leuconota*; banded parakeet, *Palaeornis fasciatus*; African ground dove, *Oena capensis*; Chapman's curassow, *Craz chapmani* (55090); 2 specimens of Rosella parakeet, *Platycercus eximius*; demoiselle crane, *Anthropoides virgo*; love bird, *Agapornis cana*; 2 specimens of roseate tern, *Sterna dougalli*; 2 specimens of bleeding-heart pigeon, *Phlogoenas luzonica*; grass parakeet, *Melospittacus undulatus*; paradise whydah finch, *Vidua paradisaea*; Amazon parrot, *Amazona ochroptera*; Australian thick-knee, *Burhinus grallarius*; kea parrot, *Nestor notabilis*; ruff, *Machetes pugnax*; sarus crane, *Grus antigone*; red and blue macaw, *Ara chloroptera* (55091); skin and skull of Patagonian cavy, *Dolichotis patagonica* (55156); silver pheasant, *Gennarus nychemerus* (55185); prairie dog, *Cynomys ludovicianus* (55630); partridge, *Perdix perdix* (55635); 6 young bears, namely, 3 specimens of *Ursus kiddlei-arctos*, 1 of *U. horribilis*, and 2 of *U. gyas-kiddlei*; grizzly bear, *Ursus horribilis*; young buffalo, *Bison americanus*; lion, *Felis leo*; monkey, *Cercopithecus mona*; monkey, *Papio maimon*; 2 minks, *Mustela vison*; prairie dog, *Cynomys ludovicianus*; skull of reindeer, *Rangifer tarandus*; and skull of a moose, *Alces americanus* (55636); green parakeet, *Conurus holochlorus*; 2 specimens of demoiselle crane, *Anthropoides virgo*; European flamingo, *Phoenicopterus roseus*; 2 specimens of crested screamer, *Chauna cristata*; scaup duck, *Marila marila*; 3 specimens of European swan, *Cygnus gibbus*; bateleur eagle, *Terathopius ecaudatus* (55637).

SNYDER, C. P., Tofty, Alaska: Skull of an extinct horse and tooth of a mastodon, from Alaska (55021: loan).

SOWERBY, ARTHUR DE C., Tientsin, China: 24 mammals, 16 reptiles, and a bird, from northern Shan-si, China (54678); skins and skulls of 12 mammals from Mongolia (55070); 45 mammals and 9 birds, from China (55558). Collected for the Museum.

- SPATE, BENJAMIN F., Washington, D. C.: Specimen showing concretionary structure in iron ore (55103).
- SPENCER, EDWARD B. T., Grinnell College, Grinnell, Iowa: 26 samples of building and decorative stones collected in Rome (54562).
- SPRAGUE PUBLISHING COMPANY, Detroit, Mich.: Original painting for cover of "The American Boy," July, 1912, and a two-color proof of the same, in red and green; also 2 sheets showing eight pages of the magazine printed in red and in green, respectively (55604).
- SPRINGER, HON. FRANK, East Las Vegas, N. Mex.: About 500 specimens of Devonian and Lower Carboniferous mollusks from the Mississippi Valley (54583).
- STÄDTISCHES MUSEUM. (See under Weimar, Germany.)
- STANDLEY, PAUL C., U. S. National Museum: 89 plants from Maryland (54332); 1,050 plants from Greene County, Mo. (54522); pebble of granite with groove made by a primitive saw, collected by the donor near Pecos, N. Mex. (55096); 26 plants collected near Hampton, Va., by Mr. Standley and H. C. Bollman (55348).
- STATE, DEPARTMENT OF:
(See under Henry D. Baker, Fred'k. T. F. Dumont, Frederic W. Goding, W. Maxwell Greene, Augustus E. Ingram, Mason Mitchell, James L. Rodgers, and Albert Talken.)
Alaska Boundary Survey: 100 plants collected in Alaska by David W. Eaton, Surveyor, Alaskan Boundary (54807).
- STAUFFER, Prof. CLINTON R., Adelbert College, Western Reserve University, Cleveland, Ohio: 9 specimens of Devonian sponges from Ontario (54661).
- STALEY, WATTERSON, Washington, D. C.: Oil portrait of Henry Clay, by Jean Baptiste Adolphe Gibert (55281: loan).
- STEARNS, ELMER, El Paso, Tex.: 120 plants from Texas, Mexico, and New Mexico (54275; 54319; 54352; 54414; 54597).
- STEELE, E. S., U. S. National Museum: 63 plants from Ohio (54331); 529 plants from the eastern part of the United States (54654).
- STEGER, A. M., Shores, Va.: 5 living specimens of *Opuntia* from Virginia (55305).
- STEINER, JACOB, Brooklyn, N. Y.: One Sharpe rifle with Maynard tape primer (54444).
- STEPHENS, FRANK, San Diego, Cal.: Lizard, *Xantusia picta*, from California (55129).
- STEPHENSON, L. W., U. S. Geological Survey, Washington, D. C.: About 200 specimens of Loess fossils from Arkansas (54983).
- STEVENS, O. A., Agricultural College, N. Dak.: 60 bees, including a paratype of *Nomada bilobata* and a paratype of *N. vicina stevensi* (55122; 55205).
- STOCKHOLM, SWEDEN, RIKSMUSEETS, BOTANISKA AFDELNING: 280 specimens of grasses from South America (54510: exchange).
- STREETER, D. D., Brooklyn, N. Y.: 4 mammals, 23 reptiles, and 4 fishes from Borneo (55230); 35 reptiles and batrachians, from Algeria and Sahara (55455).
- STRIEGEL, LA ROY M., Humboldt, Ariz.: Spider (54476).
- SUMMERS, EWING, Washington, D. C.: 9 specimens of *Acanthospermum* from the District of Columbia (54743).
- SUPERIOR THREAD AND YARN CO., New York City: Specimens illustrating the manufacture of ramie thread and yarn (54887).
- SWEENEY, THOMAS W., U. S. National Museum: Framed color-print of the Parthenon (54680).
- SWENK, M. H., University of Nebraska, Lincoln, Nebr.: 20 sawfly larvae (54475).
- SWIGGETT, H. L., Washington, D. C.: Living specimen of *Echeveria*, originally from Scotland (54636).

- SYDNEY, NEW SOUTH WALES, AUSTRALIA, AUSTRALIAN MUSEUM: Specimen of *Hoplichthys haswelli* (55594: exchange).
- SYDNEY, NEW SOUTH WALES, AUSTRALIA, BOTANIC GARDENS: 100 plants from Australia (55225: exchange).
- SYMONS, A. H., Supai, Ariz.: 4 living specimens of Cactaceæ (55034).
- TABLER, MISS ELIZABETH D., U. S. National Museum: Daguerreotype of a man (54681).
- TALKEN, ALBERT, Windsorton, Cape Province, Union of South Africa (through Department of State): 8 stone implements found by the donor 24 feet beneath the surface near Windsorton, on the Vaal River (54988).
- TALKO-HRYNCEWICZ, Prof. J., Uniwersytet Jagiellonski, Krakow, Krakow, Galicia, Austria: 4 photographs of Siberian natives (54880); casts of skulls and lower jaws of Asiatic peoples, samples of hair of Poles and Lithuanians, and model of apparatus for aiding an infant to walk (55526: exchange).
- TARBOX, MRS. MARY P., Westport, Me.: Larva of *Philampelus achemon* (54487).
- TAYS, E. A. H., San Blas, Sinaloa, Mexico: 11 plants from Mexico (54378; 54580).
- TELLER, EDGAR E., Milwaukee, Wis.: 200 Silurian fossils from Delafield, Wis. (55287).
- TERRY, J. E., Williamsburg, Ky.: 4 Maltese kittens in alcohol (55627).
- THACKERY, FRANK A., Sacaton, Ariz.: 25 specimens of desert plants (54792).
- THATCHER, AARON H., Washington, D. C.: An anvil which was in the possession of the Mormons at Nauvoo, Ill., many years previous to their journey to Salt Lake (54779: loan).
- THOMPSON, Dr. J. C., U. S. Navy, Sausalito, Cal.: About 617 insects, including 117 from Marin County, Cal. (55270; 55490); reptiles and batrachians from California (55414).
- THOMPSON, J. G., Petersburg, Va.: A piece of petrified wood from Chesterfield County, Va. (54486).
- THORNBURGH, VERN, Lincoln, Nebr.: Triangular pierced tablet of banded slate (55060: exchange).
- THRUSTON, R. C. BALLARD, Louisville, Ky.: 2 specimens of grass warbler, *Cisticola cisticola*, from Italy (54282); red-tailed hawk, *Buteo borealis* (54657).
- THURLOW, F. W., Harvester, Tex.: 11 plants from Texas (54861).
- TIDESTROM, IVAR, U. S. Department of Agriculture, Washington, D. C.: 47 plants from Maryland, Virginia, and New Jersey (54655).
- TILDEN, MISS JOSEPHINE E., University of Minnesota, Minneapolis, Minn.: 125 plants from the south Pacific islands and 92 plants from Canada (54427: purchase).
- TILKIE, CHARLES M., Swastika, Canada: Specimen of silver ore from the Cobalt district, Canada (55628: exchange).
- TILLOTSON, MISS LOTTIE L., Halifax, Nova Scotia: 2 specimens of *Filipendula* from Nova Scotia (54415).
- TODD, AURELIUS, Ocosingo, Chiapas, Mexico: 10 fossils and about 100 specimens (representing 7 species) of freshwater shells from Mexico (54687); 2 small lots of Oligocene fossils and about 50 specimens of recent shells, *Pachychilus planensis*, from Mexico (55298).
- TONDUZ, A., San José, Costa Rica: 2 living specimens of *Pereskia* from Costa Rica (54271: exchange); a living specimen of cactus from Costa Rica (55425).
- TORRE, Dr. CARLOS DE LA, Havana, Cuba: 117 specimens, representing 14 species (cotypes), of *Urocoptis* from Cuba (55094).
- TOWER, D. G., Agricultural Experiment Station, Mayaguez, P. R.: 10 paratypes of *Prospaltella perniciosi* (54982).
- TOWLES, W. H., Washington, D. C.: 6 flash-light photographs (54401).

TOWNSEND, C. H. T., Lima, Peru: 6 specimens of Cactaceae and 2 snakes from Peru (55290; 55470; 55633); 3 pieces of fossil bones, 9 fossil shells, and 8 pieces of fossil wood, collected by Abelardo Alvarez Calderon in the vicinity of Nazca Valley, Peru (55541).

TREASURY DEPARTMENT:

A series of Confederate paper currency, comprising 140 specimens (54443); 2 sets of tea standards—for 1912-1913 and 1913-1914—received through the Supervising Tea Examiner (55578); 5 small lots of tin ore from North Carolina, collected by the late Dr. George B. Hanna, received through the Director of the Mint (55617).

TSUDA, N. (See under Baron Senge.)

TUCKER, MRS. JOHN SOUTHGATE, and Mrs. J. HUGH COTTMAN, Washington, D. C. (through Mrs. Julian James and Mrs. R. R. Hoes): Dress and slippers of Martha King, worn at a ball when she danced with General Lafayette. Mrs. King was the wife of Capt. Miles King of the Continental Army, alderman and afterwards mayor of Norfolk, Va. (54790: loan).

TUCKERMAN, Miss EMILY, Washington, D. C.: 8 pieces of tapestry (54345; 55529); a mirror called a "trumeau," the upper part of which is a painting (54875); 2 pieces of Louis XIV embroidery and 1 piece of Louis XVI embroidery (55322). Loan.

TUCKERMAN, WALTER R., Washington, D. C.: Portrait, in oil, of Joseph Tuckerman, D. D., by Gilbert Stuart (55046: loan).

TURCKHEIM, Baron H. VON, Coban, Guatemala: 2 living specimens of Cactaceae from Guatemala (55277).

TURNER, H. J. ALLEN, Nairobi, British East Africa: Skin and skull of an otter (54841); skin and skull of an otter, *Aonyx*, and skull of a badger, *Mellivora* (54918).

TWINING, S. B., AND COMPANY, Stockton, N. J.: A five-inch cube of sandstone (55003).

ULRICH, MAX, San Francisco, Cal.: United States silver half-dollar used as an identification tag during the Civil War (54693).

UNDERWOOD, W. F., Capitol Heights, Md.: Ants' nest in a chestnut log (54801).

UNITED MINERAL COMPANY, South Danbury, N. H.: Specimen of garnet in gneiss (54313).

UNIVERSITETETS BOTANISKE MUSEUM. (See under Copenhagen, Denmark.)

UNIVERSITETETS ZOOLOGISKE MUSEUM. (See under Copenhagen, Denmark.)

UNIVERSITY BOTANIC GARDEN. (See under Cambridge, England.)

UPSALA, SWEDEN, BOTANISKA MUSEUM, UPSALA UNIVERSITETS: 500 plants from Sweden (55133: exchange).

URBAN, Dr. I., Dahlem bei Steglitz (Berlin), Germany: 310 plants collected in Santo Domingo by Padre Fuertes (54911: purchase).

VAN DUZEE, M. C., Buffalo, N. Y.: 2 specimens of *Agonosoma variegatum* (55462).

VAN HYNING, T., Fort Madison, Iowa: A collection of shells, mostly American, numbering approximately 48,180 specimens and representing about 70 species (55482).

VAN ROON, G., Rotterdam, Netherlands: About 150 specimens of Curculionidae from the Indo-Malayan regions (55313: exchange).

VELDER, GEORGE, Carversville, Pa.: 3 specimens of Triassic plants from Carversville (54370).

VENICE MARINE BIOLOGICAL STATION, UNIVERSITY OF SOUTHERN CALIFORNIA, Venice, Cal.: 10 crabs (54722); 10 specimens, representing 3 species, of annelids (55338).

VERA, Mrs. IRENE, San Luis Potosi, Mexico: 7 living specimens of Cactaceae, from central Mexico (54464); 2 living specimens of *Opuntia* and 2 of *Cereus*, from near San Luis Potosi (54695).

VERCO, Dr. J. C., Adelaide, South Australia: 12 species of shells from Australia, cotypes of species described by the donor (55082).

VERNER, S. P., Isthmian Canal Commission, Bas Obispo, Canal Zone: 9 living specimens of Cactaceae (54598; 55038).

VICTORIA AND ALBERT MUSEUM. (See under London, England.)

VIENNA, AUSTRIA, K. K. NATURHISTORISCHES HOFMUSEUM: 100 plants, comprising Century 20 of "*Kryptogamae Exsiccatae*" (54958: exchange).

VIETT, GEORGE F., Norfolk, Va.: A sale catalogue of historical relics and a collection of early photographs (54836).

VILLA, A. P., AND BROS., New York City: 22 samples of raw silk (54849).

VUILLET, A., Paris, France: About 40 specimens of reared parasitic Hymenoptera from Haut Senegal-Niger (54662).

WALKER, BRYANT, Detroit, Mich.: 4 specimens, representing 2 species, of fresh-water mollusks, *Ancylus*, from South Africa (54307); specimen of *Diplodon fonckii* from the Chalchal River, Imperial, Chile (54612); 2 specimens of *Diplodon hartwrighti* from the Amazon River, Brazil (from the Wright collection) (54998).

WALKER, MRS. SOPHIE LIEBENAU, Alexandria, Va.: Collection of relics of the von Liebenau family of Württemberg, Germany, and its descendants in America (55051).

WALLACE, Mrs. R. M., Forest Hill, Md.: Specimen of walking-stick, *Diapheromera veliei* (54428).

WALLIS, WILLIAM. (See under William Palmer and A. C. Weed.)

WALTON, W. R., U. S. Department of Agriculture, Washington, D. C.: Type and allotype of *Microdon craigheadii* (55125).

WAR DEPARTMENT:

Plaster model of the statue of Rear Admiral Charles H. Davis, U. S. Navy, by Frank E. Elwell, from which was cast the bronze statue for the Vicksburg National Military Park (55010).

WAR DEPARTMENT—Continued.

Army Medical Museum: An artistically tattooed head of a New Zealander (54930: exchange).

Office of the Chief of Ordnance: A copper powder flask with carrying-strap and 2 British Tower rifles, 1862, received from the Watertown Arsenal, Boston, Mass. (54445); military firearms, swords, etc., 43 objects, formerly in the museum of the U. S. Soldiers' Home, Washington, D. C. (54537).

WARD, Mrs. COONLEY, Wyoming, N. Y.: 18 specimens of meteorites (55600: purchase).

WARD, ROWLAND, LTD., London, England: Skin, skull and skeleton of a mounted male okapi (55585: purchase).

WARD'S NATURAL SCIENCE ESTABLISHMENT, Rochester, N. Y.: Cast of skull of *Glyptodon* (55542: purchase).

WARNER, S. P., American consul, Harbin, Manchuria: 6 bird skins from Bahia, Brazil (55045).

WARREN, ERNEST M., St. Maries, Idaho: A worm of the family Gordiidae (55486).

WASHINGTON, CHARLES S., U. S. National Museum: Parasitic worm, *Ascaris suum*, from the intestines of a hog (55465).

WATERS, Dr. C. E., Bureau of Standards, Washington, D. C.: Specimen of *Sarracenia* from Maryland (54523).

WAYNE, ARTHUR T., Mt. Pleasant, S. C.: Copperhead snake, *Agkistrodon contortrix* (54350); specimen of king rail, *Rallus elegans*, and skin of a black-bellied plover, *Squatarola squatarola*, from South Carolina (55355; 55516). Exchange.

WEED, A. C., U. S. National Museum: Snake, *Storeria dekayi*, from North Rose, N. Y. (54592); fishes from the vicinity of the District of Columbia (55372). (See under William Palmer.)

WEED, A. C., and W. L. McATEE: Fishes from the Potomac River in the vicinity of Plummers Island (54507).

WEED, A. C., and ERNEST B. MARSHALL: Fishes, insects and a crayfish, from Indian Creek, Md. (54363).

- WEIGEL, THEODOR OSWALD, Leipzig, Germany: 300 specimens of *Salix* from Europe (Toepffer, *Salicetum Exsiccatum*, Fasc. 1-7) (54970: purchase).
- WEIMAR, GERMANY, STÄDTISCHES MUSEUM: Archeological material from the caverns of Taubach, Germany (55436: exchange).
- WEINGART, W., Georgenthal, Thüringen, Germany: Living specimen of cactus from Mexico (55459).
- WELLS, MRS. HENRY, Washington, D. C.: An oil painting, a copy of Murillo's "The Beggars" (55514); Revolutionary sword, letters, etc.; also a collection of old prints, and an atlas of 1806 (55520). Loan.
- WERTH, MRS. MARY MAURY, Richmond, Va.: Gold electrotype of the gold medal awarded by Oscar I, King of Sweden and Norway, to Matthew Fontaine Maury, in recognition of his services to the science of navigation, obtained through the courtesy of Miss Ann H. Maury of Richmond (55519). (See under Commander Matthew Fontaine Maury, U. S. Navy, Descendants of.)
- WEST VIRGINIA AGRICULTURAL EXPERIMENT STATION, Morgantown, W. Va.: A collection of about 15,000 forest insects and their work, together with a large quantity of notes, special records, manuscripts, etc. (54640: deposit).
- WETMORE, Hon. GEORGE PEABODY, Washington, D. C.: Oil painting, "Versailles," by Constant Wauters, and a water color, "Military Review," by Edouard Detaille (55504: loan).
- WETMORE, Maj. WILLIAM BOERUM, Washington, D. C.: Historical material, including 2 paintings in oil, a "Portrait of George Peabody," by Lowes Dickinson, and "Held up," by N. H. Trotter; also ethnological, biological and paleontological material (55163); an engraving and 3 water colors (55383).
- WHEELER, MRS. C. F., Lanham, Md.: 125 plants from various localities (55202).
- WHERRY, Prof. EDGAR T., Lehigh University, South Bethlehem, Pa.: Specimen of rutile in quartz (55146).
- WHITE, DAVID, U. S. Geological Survey, Washington, D. C.: A carboniferous fossil plant from Perry Park, Colo. (54426).
- WHITE, H. T., Sudbury, Ontario, Canada: 12 bottles of fresh-water bryozoans from Canada (54910).
- WHITE, Dr. I. C., State Geologist, Morgantown, W. Va.: A calcareous concretion thrown out from a Mexican oil well (54924).
- WHITE, MRS. JOHN JAY, Washington, D. C.: Papillon ring and an Egyptian god mounted as a necklace (54750); a wide flounce of point d'Alençon lace, in 3 pieces, also 3 large and 7 small waist pieces of the same lace (54752: loan.)
- WHITTALL, M. J., Worcester, Mass.: Photographs and specimens illustrating the manufacture of Wilton and Brussels rugs and carpets (54997).
- WHITTIER, M. S., Deputy Collector of Customs, Ketchikan, Alaska: Specimen of basket-fish, *Gorgonocephalus caryi*, from Prince William Sound, Alaska (55055).
- WIEDMER, JOHN, St. Louis, Mo.: Skull of a musk-ox and tooth of a mastodon, a spearhead, arrowpoint, and a drill, found in a peat or muck field at Manito, Ill. (55407).
- WILCOX, Miss F. E., Washington, D. C.: Indian pottery from Arizona, consisting of 1 specimen from the Mohave and 6 specimens from the Pima Indians (54726); an ancient Indian (Pima-Papago?) shell bracelet found in a mound south of Tucson, Ariz. (55419).
- WILCOX, Brig. Gen. TIMOTHY E., U. S. Army (retired), Washington, D. C.: A pair of horns of the mountain goat (54855); specimen of *Aralia* from the District of Columbia (55296); specimen of *Potamogeton* from Maryland (55442).
- WILCOX, Mrs. TIMOTHY E., Washington, D. C.: A Zufii water jar (54603).
- WILLIAMS, FRANCIS X., University of Kansas, Lawrence, Kans.: 2 specimens of *Rehnia victoriz* (55228); 18 specimens of Diptera (55369). Exchange.

- WILLIAMS, Miss MARY H., Washington, D. C.: Red velvet cope, Spanish, 16th century; 3 pieces of brocade, 17th century; piece of red silk; and 2 pieces of red velvet (55325: loan).
- WILLIAMS, R. S., New York Botanical Garden, Bronx Park, New York City: Specimen of *Encelia pilocarpa* from Peru (55574).
- WILLIAMS, THOMAS E., Arvonis, Va. (through T. Nelson Dale, U. S. Geological Survey, Washington, D. C.): 2 slabs containing fossil crinoids (54336).
- WILLIAMSON, E. B., Bluffton, Ind. (through Philip P. Calvert): 39 neotropical dragonflies (54323: exchange); 38 specimens, representing 16 species, of dragonflies from Guatemala, and 7 specimens, representing 4 species, of dragonflies from the United States (54489).
- WILLIS, BAILEY, Washington, D. C.: 125 specimens of *Sphaerium*, *Planorbis*, and *Lymnaea*, from Laguna Ñ-huan Maquin chao, Rio Negro, Argentina (54285).
- WILMER, Col. L. WORTHINGTON, Lothian House, Ryde, England: 125 specimens of fossil shells from the Isle of Wight, 26 specimens of recent shells from the Isle of Wight and Jamaica, and 6 plants (54913).
- WINKLEY, Rev. HENRY W., Danvers, Mass.: 6 specimens of *Odosotomia* (*Evala*) *bartschi* from Woods Hole, Mass. (54365); sample of siftings containing crustaceans, from Quohog Bay, Me. (54478).
- WINTHROP, Hon. BEEKMAN, Washington, D. C.: Filipino rain coat (55160).
- WONALANCET COMPANY, Nashua, N. H.: 9 samples of Peruvian and China raw and carded cotton (55402).
- WOOD, N. R., U. S. National Museum: Crayfishes and spiders, from Florida (55197).
- WOODWARD, S. W. (See under Egypt Exploration Fund.)
- WOOLLEY, CLAUDE L., Baltimore, Md.: A horizontal bronze sundial adapted to the latitude of Aberdeen, Scotland (54544); a horizontal aluminum sundial for the latitude of Constantinople, Turkey (54965).
- WOOTON, Prof. E. O., U. S. Department of Agriculture, Washington, D. C.: 10,000 plants chiefly from New Mexico (55346: purchase).
- WRIGHT, W. S., San Diego, Cal.: About 198 Lepidoptera (55209).
- WURZLOW, E. C., Houma, La.: Living specimen of *Hymenocallis* collected near Houma (55410); 4 living specimens of *Opuntia* from Louisiana (55543).
- WYOMING, UNIVERSITY OF, Laramie, Wyo.: 721 plants from Idaho (54968: exchange).
- YANKEE CONSOLIDATED MINING COMPANY, Salt Lake City, Utah (through Victor C. Heikes, U. S. Geological Survey): 4 specimens of zinc ore from the Tintic Mining District, Utah (55302); an exhibition specimen of calamine from the Yankee Consolidated Mine, Eureka, Utah (54434). (See under B. N. Lehman.)
- YELLOWSTONE NATIONAL PARK, Yellowstone Park, Wyo. (See under Interior, Department of.)
- YOTHERS, M. A., Agricultural Experiment Station, Pullman, Wash.: 10 specimens of *Panscopus equalis* (54467).
- YOUNG, JAMES HAY, Meredith, Victoria, Australia: 14 specimens, representing 9 species, of Ordovician graptolites from Australia; also Australian land and fresh-water shells, representing 32 species (55141); Tertiary fossils, representing 35 species, from Australia (55615). Exchange.
- ZACHARIE, Dr. CHARLES C., White Plains, N. Y.: A long black bow of the Indians of Brazil near the Amazon River (55334).
- ZUMBRUN, FRED., Fort Klamath, Oreg.: Braincase of a deer (55221).

**LIST OF PUBLICATIONS OF THE U. S. NATIONAL MUSEUM
ISSUED DURING THE FISCAL YEAR 1912-1913, AND OF
PAPERS PUBLISHED ELSEWHERE WHICH RELATE TO
THE COLLECTIONS.**

PUBLICATIONS OF THE MUSEUM.

PROCEEDINGS.

Smithsonian Institution | United States
National Museum | — | Proceedings |
of the | United States National Museum
| — | Volume 42 | — | (Seal) | Wash-
ington | Government Printing Office |
1912

Svo., pp. i-xiv, 1-675, pls.
1-76, 100 figs., 1 map.

Smithsonian Institution | United States
National Museum | — | Proceedings |
of the | United States National Museum
| — | Volume 43 | — | (Seal) | Wash-
ington | Government Printing Office |
1913

Svo., pp. i-xi, 1-669, pls.
1-46, 48 figs.

BULLETINS.

Smithsonian Institution | United States
National Museum | Bulletin 79 | — |
List of North American Land Mam-
mals in the United States | National
Museum, 1911 | — | By | Gerrit S.
Miller, jr. | Curator, Division of
Mammals, United States | National
Museum | (Seal) | Washington | Gov-
ernment Printing Office | 1912

Svo., pp. i-xiv, 1-455.

Smithsonian Institution | United States
National Museum | Bulletin 81 | — |
Synopsis of the Rotatoria | By | Harry
K. Harring | Of the United States
Bureau of Standards, Washington,
D. C. | (Seal) | Washington | Govern-
ment Printing Office | 1913

Svo., pp. 1-226.

PAPERS PUBLISHED IN SEPARATE FORM.

FROM VOLUME 42 OF THE PROCEEDINGS.

No. 1907. New cyclogasterid fishes from
Japan. By C. H. Gilbert
and C. V. Burke. pp. 351-
380, pls. 41-48, figs. 1-18.

No. 1908. Some new Mollusca from the
Silurian formations of
Washington County, Maine.
By Henry Shaler Williams.
pp. 381-398, pls. 49, 50.

No. 1909. Japanese shore fishes collected
by the United States Bureau
of Fisheries steamer "Alba-
tross" Expedition of 1906.
By John Otterbein Snyder.
pp. 399-450, pls. 51-61, 2 figs.

No. 1910. Notes on African Orthoptera of
the families Mantidae and
Phasmidae in the United
States National Museum,
with descriptions of new
species. By James A. G.
Rehn. pp. 451-475, figs.
1-17.

No. 1911. Description of a new terrestrial
isopod belonging to the genus
Oubaris from Panama. By
Harriet Richardson. pp.
477-479, figs. 1, 2.

No. 1912. A new discodrilid worm from
Colorado. By Max M. Ellis.
pp. 481-486, figs. 1-5.

John Otterbein Snyder. pp. 487-519, pls. 62-70.

- No. 1914. Descriptions of two new parasitic isopods belonging to the genera *Palsegyge* and *Probopyrus* from Panama. By Harriet Richardson. pp. 521-524, figs. 1-8.
- No. 1915. Descriptions of two new species of fishes from Honolulu, Hawaii. By David Starr Jordan and Charles William Metz. pp. 525-527, pl. 71.
- No. 1916. A revision of the subspecies of the green heron (*Butorides virescens* [Linnaeus]). By Harry C. Oberholser. pp. 529-577.
- No. 1917. Description of a new family of pediculate fishes from Celebes. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 20.] By Hugh M. Smith and Lewis Radcliffe. pp. 579-581, pl. 72.

genus *Apseudes* from Ecuador. By Harriet Richardson. pp. 583-585, 1 fig.

- No. 1919. Notes on a collection of fishes from Java, made by Owen Bryant and William Palmer in 1909, with description of a new species. By Barton A. Bean and Alfred C. Weed. pp. 587-611, pls. 73-75, figs. 1-3.
- No. 1920. Contributions to our knowledge of bees and ichneumon-flies, including the descriptions of twenty-one new genera and fifty-seven new species of ichneumon-flies. By H. L. Viereck. pp. 613-648, figs. 1, 2.
- No. 1921. Model of a Brahmin temple. By Immanuel M. Casanowicz. pp. 649-653, pl. 76.
- No. 1922. Note on the generic name *Safole*, replacing *Boulengerina*, for a genus of Kuhluid fishes. By David Starr Jordan. p. 655.

FROM VOLUME 43 OF THE PROCEEDINGS.

- No. 1923. Descriptions of the *Alcyonaria* collected by the U. S. Fisheries steamer "Albatross," mainly in Japanese waters, during 1906. By Charles C. Nutting. pp. 1-104, pls. 1-21.
- No. 1924. Descriptions of a new family, two new genera, and twenty-nine new species of *Anacanthine* fishes from the Philippine Islands and contiguous waters. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 21.] By Lewis Radcliffe. pp. 105-140, pls. 22-31, figs. 1-11.

- No. 1925. Studies in the woodwasp superfamily *Oryssioidea*, with descriptions of new species. By S. A. Rohwer. pp. 141-158, pls. 32, 33, figs. 1-6.
- No. 1926. Descriptions of two new isopods, an *Apseudes* and a *Munnopsia*, both from the Galapagos Islands. By Harriet Richardson. pp. 159-162, figs. 1-4.
- No. 1927. Descriptions of new *Hymenoptera*, No. 5. By J. C. Crawford. pp. 163-188, figs. 1, 2.
- No. 1928. Dragon flies of the Cumberland Valley in Kentucky and Tennessee. By Charles Branch Wilson. pp. 189-200.

- No. 1929. Descriptions of a new genus of isopod crustaceans, and of two new species from South America. By Harriet Richardson. pp. 201-204, figs. 1, 2.
- No. 1930. Notes on sawflies, with descriptions of new species. By S. A. Rohwer. pp. 205-251, figs. 1-6.
- No. 1931. Preliminary account of one new genus and three new species of Medusæ from the Philippines. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 22.] By Henry B. Bigelow. pp. 253-260.
- No. 1932. Names applied to the eucerine bees of North America. By T. D. A. Cockerell. pp. 261-273.
- No. 1933. Bryozoa from Labrador, Newfoundland, and Nova Scotia, collected by Dr. Owen Bryant. By Raymond C. Osburn. pp. 275-289, pl. 34.
- No. 1934. New American dipterous insects of the family Pipunculidæ. By J. R. Malloch. pp. 291-299, 1 fig.
- No. 1935. Descriptions of new genera and species of muscoid flies from the Andean and Pacific Coast regions of South America. By Charles H. T. Townsend. pp. 301-367.
- No. 1936. Notes on certain amphipods from the Gulf of Mexico, with descriptions of new genera and new species. By Arthur S. Pearse. pp. 369-379, figs. 1-8.
- No. 1937. The crinoids of the Museum fuer Naturkunde, Berlin. By Austin Hobart Clark. pp. 381-410.
- No. 1938. The insects of the dipterous family Phoridae in the United States National Museum. By J. R. Malloch. pp. 411-529, pls. 35-41.
- No. 1939. A revision of the forms of the great blue heron (*Ardea herodias* Linnaeus). By Harry C. Oberholser. pp. 531-559.
- No. 1940. Notes on the occurrence of the crustacean *Alonopsis* in America, with description of a new species. By Alfred A. Doolittle. pp. 561-565, pls. 42, 43.
- No. 1941. A new genus and six new species of fishes of the family Cyclogasteridæ. By Charles Victor Burke. pp. 567-574.
- No. 1942. Descriptions of one new family, eight new genera, and thirty-three new species of ichneumon-flies. By H. L. Viereck. pp. 575-593.
- No. 1943. A newly found meteoric iron from Perryville, Perry County, Missouri. By George P. Merrill. pp. 595-597, pls. 44, 45.
- No. 1944. Four new genera and fifty-eight new species of starfishes from the Philippine Islands, Celebes, and the Moluccas. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 23.] By Walter K. Fisher. pp. 599-648.
- No. 1945. One new genus and eight new species of dipterous insects in the United States National Museum collection. By J. R. Malloch. pp. 649-658, pl. 46.

FROM VOLUME 44 OF THE PROCEEDINGS.

- No. 1946. Medusæ and Siphonophoræ collected by the U. S. Fisheries steamer "Albatross" in the northwestern Pacific, 1906. By Henry B. Bigelow. pp. 1-119, pls. 1-6, figs. 1, 2.
- No. 1947. Descriptions of new species of saturnian moths in the collection of the United States National Museum. By Harrison G. Dyar. pp. 121-134.
- No. 1948. Descriptions of seven new genera and thirty-one new species of fishes of the families Brotulidæ and Carapidæ from the Philippine Islands and the Dutch East Indies. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 24.] By Lewis Radcliffe. pp. 135-176, pls. 7-17.
- No. 1949. Results of the Yale Peruvian Expedition of 1911. Orthoptera (Acridiids—short-horned locusts). By Lawrence Bruner. pp. 177-187.
- No. 1950. Crustacean parasites of West Indian fishes and land crabs, with descriptions of new genera and species. By Charles Branch Wilson. pp. 189-277, pls. 18-53.
- No. 1951. Descriptions of new Lepidoptera, chiefly from Mexico. By Harrison G. Dyar. pp. 279-324.
- No. 1952. A newly found meteorite from near Cullison, Pratt County, Kansas. By George P. Merrill. pp. 325-330, pls. 54, 55.
- No. 1953. A revision of the South American dipterous insects of the family Ptychopteridæ. By Charles P. Alexander. pp. 331-335, figs. 1-3.
- No. 1954. Terrestrial isopods collected in Costa Rica by Mr. Picado, with the description of a new genus and species. By Harriet Richardson. pp. 337-340, figs. 1-5.
- No. 1955. Some fossil insects from Florissant, Colorado. By T. D. A. Cockerell. pp. 341-346, pl. 56, figs. 1-3.
- No. 1956. Results of the Yale Peruvian Expedition of 1911. Orthoptera (exclusive of Acridiids). By A. N. Caudell. pp. 347-357.
- No. 1957. Description of *Anguilla manabei*, a new eel from Japan. By David Starr Jordan. pp. 359, 360, pl. 57.
- No. 1958. Descriptions of new species of American flies of the family Borboridæ. By J. R. Malloch. pp. 361-372.
- No. 1959. The sipunculids of the eastern coast of North America. By John Hiram Gerould. pp. 373-437, pls. 58-62, figs. 1-16.
- No. 1960. Results of the Yale Peruvian Expedition of 1911. Hymenoptera, superfamilies Vespoidea and Sphecoidea. By S. A. Rohwer. pp. 439-454, fig. 1.
- No. 1961. Notes on *Ranzania makua* Jenkins and other species of fishes of rare occurrence on the California coast. By John Otterbein Snyder. pp. 455-460, pl. 63.
- No. 1962. Two new species of Diptera in the United States National Museum collection. By J. R. Malloch. pp. 461-463.
- No. 1963. Descriptions of two new fishes of the genus *Triglops* from the Atlantic coast of North America. By Charles H. Gilbert. pp. 465-468, pl. 64.

- No. 1964. Results of the Yale Peruvian Expedition of 1911. Hymenoptera—Ichneumonoidæ. By H. L. Viereck. pp. 469, 470.
- No. 1965. A synopsis of the American minks. By N. Hollister. pp. 471-480.
- No. 1966. A synopsis of part of the neotropical crane-flies of the subfamily Limnobiinæ. By Charles P. Alexander. pp. 481-549, pls. 65-68.
- No. 1967. Description of a new species of actinian of the genus *Edwardsiella* from southern California. By J. Playfair McMurrich. pp. 551-553, fig. 1.
- No. 1968. Descriptions of ten new genera and twenty-three new species of ichneumon-flies. By H. L. Viereck. pp. 555-568.
- No. 1969. Notes on some fossil horses, with descriptions of four new species. By Oliver P. Hay. pp. 569-594, pls. 69-73, figs. 1-28.
- No. 1970. Notes on nearctic orthopterous insects. I. Nonsaltatorial forms. By A. N. Caudell. pp. 595-614, figs. 1-27.
- No. 1971. Descriptions of new species of crabs of the family Ocypodidæ. By Mary J. Rathbun. pp. 615-620, pls. 74-76.
- No. 1972. Notes on some American Diptera of the genus *Fannia*, with descriptions of new species. By J. R. Malloch. pp. 621-631, pl. 77.
- No. 1973. New Textulariidae and other arenaceous Foraminifera from the Philippine Islands and contiguous waters. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 25.] By Joseph A. Cushman. pp. 633-638, pls. 78-80.
- No. 1974. Descriptions of six new genera and twelve new species of ichneumon-flies. By H. L. Viereck. pp. 639-648.
- No. 1975. A recently mounted zeuglodon skeleton in the United States National Museum. By James W. Gidley. pp. 649-654, pls. 81, 82, figs. 1-3.

FROM VOLUME 45 OF THE PROCEEDINGS.

- No. 1977. A systematic monograph of the chalcidoid Hymenoptera of the subfamily Signiphorinæ. By A. Arsène Girault. pp. 189-233.
- No. 1978. The giant species of the molluscan genus *Lima* obtained in Philippine and adjacent waters. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 26.] By Paul Bartsch. pp. 235-240, pls. 12-20.
- No. 1979. Descriptions of new Hymenoptera, No. 6. By J. C. Crawford. pp. 241-260.
- No. 1980. A fossil flower from the Eocene. By Edward W. Berry. pp. 261-263, pl. 21, 1 fig.
- No. 1981. A synopsis and descriptions of the nearctic species of sawflies of the genus *Xyela*, with descriptions of other new species of sawflies. By S. A. Rohwer. pp. 265-281, 1 fig.
- No. 1982. Fossil Coleoptera from Florissant in the United States National Museum. By H. F. Wickham. pp. 283-303, pls. 22-26.

- genus *Dimya*. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 27.] By Paul Bartsch. pp. 305-307, pls. 27, 28.
- No. 1984. Descriptions of new Hymenoptera, No. 7. By J. C. Crawford. pp. 309-317, 1 fig.
- No. 1986. New parasitic Hymenoptera belonging to the tribe Xoridini. By S. A. Rohwer. pp. 353-361.
- No. 1987. Three interesting butterflies from eastern Massachusetts. By Austin Hobart Clark. pp. 363, 364, pl. 32.
- No. 1988. Miscellaneous contributions to the knowledge of the weevils of the families Attelabidae and Brachyrhinidae. By W. Dwight Pierce. pp. 365-426.
- No. 1989. The simple ascidians from the northeastern Pacific in the collection of the United States National Museum. By William E. Ritter. pp. 427-505, pls. 33-36.
- No. 1990. Mammals collected by the Smithsonian-Harvard Expedition to the Altai Mountains, 1912. By N. Hollister. pp. 507-532, pls. 37-42.
- No. 1991. Descriptions of thirteen new species of parasitic Hymenoptera and a table to certain species of the genus *Ecphyllus*. By S. A. Rohwer. pp. 533-540.
- No. 1992. Results of the Yale Peruvian Expedition of 1911.—Batrachians and reptiles. By Leonhard Stejneger. pp. 541-547.
- No. 1993. New land shells from the Philippine Islands. By Paul Bartsch. pp. 549-553, pl. 43.
- of the genus *Gleichenia* from the Upper Cretaceous of Wyoming. By Frank H. Knowlton. pp. 555-558, pl. 44.
- No. 1995. The isopod genus *Ichthyoxenus* Herklots, with description of a new species from Japan. By Harriet Richardson. pp. 559-562, figs. 1-6.
- No. 1996. Some new Hawaiian cephalopods. By S. Stillman Berry. pp. 563-566.
- No. 1997. The Hemiscylliid sharks of the Philippine Archipelago, with description of a new genus from the China Sea. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 28.] By Hugh M. Smith. pp. 567-569, pl. 45, figs. 1, 2.
- No. 1998. Notes on a small collection of amphipods from the Pribilof Islands, with descriptions of new species. By A. S. Pearse. pp. 571-573, figs. 1, 2.
- No. 1999. Description of the Yachats "Smelt," a new species of Atherinoid fish from Oregon. By David Starr Jordan and John Otterbein Snyder. pp. 575, 576, pl. 46.
- No. 2000. Two fossil insects from Florissant, Colorado, with a discussion of the venation of the Aeshnine dragon-flies. By T. D. A. Cockerell. pp. 577-583, figs. 1-3.
- No. 2001. Results of the Yale Peruvian Expedition of 1911. Orthoptera (Addenda to the Acridiidae—short-horned locusts). By Lawrence Bruner. pp. 585, 586.
- No. 2002. Diagnoses of new shells from the Pacific Ocean. By William Healey Dall. pp. 587-597.

ipelago. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 29.] By Hugh M. Smith. pp. 599-601, pl. 47, figs. 1-3.

States National Museum collection. By J. R. Malloch. pp. 603-607.

FROM VOLUME 16 OF CONTRIBUTIONS FROM THE NATIONAL HERBARIUM.

Part 3. The North American species of *Nymphæa*. By Gerrit S. Miller, jr., and Paul C. Standley. pp. i-ix, 63-108, pls. 35-47, figs. 2-40.

Part 4. Descriptions of new plants preliminary to a report upon the flora of New Mexico. By E. O. Wootton and Paul C. Standley. pp. i-xi, 109-196, pls. 48-50.

Part 5. Miscellaneous papers: Supplementary notes on American species of *Festuca*. By Charles V. Piper. pp. 197-199. *Delphinium simplex* and its immediate allies. By Charles V. Piper. pp. 201-203. The identity of *Heuchera cylindrica*. By Charles V. Piper. pp. 205, 206. New or noteworthy species of Pacific Coast plants. By Charles V. Piper. pp. 207-210. The American species of *Meibomia* of the section *Nephromeria*. By J. N. Rose and Paul C. Standley. pp. 211-216, pl. 51. *Rai- mondia*, a new genus of *Annonaceæ* from Colombia. By W. E. Safford. pp. 217-219, pls. 52, 53. Four new species of goldenrod from the eastern United States. By E. S. Steele. pp. 221-224.

Part 6. Three new genera of stilt palms (*Iriarteaceæ*) from Colombia, with a synoptical review of the family. By O. F. Cook and C. B. Doyle. pp. i-vii, 225-238, pls. 54-65, fig. 41.

Part 7. Studies in *Cactaceæ*—1. By N. L. Britton and J. N. Rose. pp. i-v, 239-242, pls. 66-73.

Part 8. Relationships of the false date palm of the Florida Keys, with a synoptical key to the families of American palms. By O. F. Cook. pp. i-vii, 243-254, pls. 74-77.

Part 9. The genus *Epiphyllum* and its allies. By N. L. Britton and J. N. Rose. pp. i-vii, 255-262, pls. 78-84.

FROM VOLUME 17 OF CONTRIBUTIONS FROM THE NATIONAL HERBARIUM.

Part 1. The lichen flora of southern California. By Hermann Edward Hasse. pp. i-xii, 1-132.

Part 2. Studies of tropical American ferns—No. 4. By William R. Maxon. pp. i-x, 133-179, pls. 1-10, figs. 1-7.

CLASSIFIED LIST OF PAPERS BASED WHOLLY OR IN PART ON THE NATIONAL COLLECTIONS.

ANTHROPOLOGY.

CASANOWICZ, IMMANUEL M. Model of a Brahmin temple.

Proc. U. S. Nat. Mus., 42, No. 1921, Aug. 30, 1912, pp. 649-653, pl. 76.

A description of the model and brief discussion of the three leading styles of Hindu temple architecture.

HOLMES, W. H. Stone implements of the Argentine littoral.

Bull. 52, Bur. Amer. Eth., 1912, pp. 125-151, pls. 13-15, and figs. 3-42 (Part of "Early Man in South America" by Aleš Hrdlička).

HOLMES, W. H.—Continued.

The relics of stone and clay collected by Dr. Aleš Hrdlička and Dr. Bailey Willis, and numbering about 1,500 specimens, are classified and described, and their technic, ethnic, and chronologic place is carefully considered with the result that none of the forms are found to present characteristics which should distinguish them from corresponding relics of the historic aborigines of Argentina, and that none should, without further evidence than that so far available, be attributed to geological antiquity.

HRDLIČKA, ALEŠ. Artificial deformations of the human skull. With especial reference to America.

Actas del XVII Congress Internacional de Americanistas. Sesión de Buenos Aires, 1912, pp. 147, 148.

Abstract of a communication delivered at the above-named session. Classifies in brief all artificial deformations of the skull; points to their causes and effects, and touches upon the distribution on the American continent of intentional deformation.

— Report on skeletal remains from a mound on Haley Place, near Red River, Miller County, Arkansas.

Journ. Acad. Nat. Sci., Phila., 14, pp. 639-640, 1 fig.

Describes a number of interesting crania and other parts of the skeleton recently donated to the National Museum by Mr. Clarence B. Moore. The skulls show artificial deformation of the flathead variety. They may, in part at least, represent a geographical extension of the Natchez people.

— Early man in South America.

Bull. 52, Bur. Amer. Eth., Aug. 30, 1912, pp. i-xv, 1-405, pls. 1-68, figs. 1-51.

This monograph, written in collaboration with W. H. Holmes, Bailey Willis, Fred. Eugene Wright and Clarence N. Fenner, and representing the results of two and a half years' work, gives the facts, as far as they could be ascertained, anthropological, archaeological, geological, and otherwise, in regard to all the finds relating to early man in South America. It is shown that the voluminous testimony relied upon to establish the presence of geologically ancient man

HRDLIČKA, ALEŠ—Continued.

on the southern continent does not withstand searching criticism. The excavations, with one or two exceptions, were made by untutored men, who took no care to ascertain the exact conditions, and in numerous instances the specimens collected remained for years unnoticed. The burnt clays which were attributed to human activities are shown to have no necessary connection with man. Stone implements regarded as exceedingly primitive and ancient present no real claims to antiquity. As to the human skeletal remains, it appears that partial mineralization of bones has been given undue weight; and that defective or artificially deformed crania have been mistaken for normal and ancestral forms. On the whole, the conclusion is inevitable that thus far no specimen has been found which could well be accepted as representing any geologically ancient form of man in South America, or any other race than the Indian. The monograph ends with a complete bibliography of the subject.

— Early man in America.

Amer. Journ. Sci., 34, Dec. 1912, pp. 543-554.

Relates to the history of man in both Americas. It is shown that, so far as skeletal parts are concerned, no specimen has been found thus far which could be accepted as satisfactorily demonstrating the presence of man dating back of the present epoch, or representing any other type than the Indian.

— Remains in eastern Asia of the race that peopled America.

Smithsonian Misc. Coll., 60, No. 16, Dec. 31, 1912, pp. 1-5, pls. 1-3.

This paper gives in brief form the main results of the writer's observations on his recent trip to Siberia and Mongolia. The most important part of these observations relates to the finding, over extensive areas in eastern Asia, of remnants of a type of people who, in practically every respect, are identical physically with the American Indian. Besides the physical, there were also noticed many mental and ethnologic resemblances between the people met with in this part of Asia and the American aborigines. The paper points, finally, to the great field for exploration offered by eastern Asia.

HRDLIČKA, ALEŠ. Early man and his "Precursors" in South America.

Anatomischen Anzeiger, 43, No. 1, 1913, pp. 1-14.

Relates to researches concerning early man in South America. It shows the exceedingly weak basis on which rests the evidence of the presence of geologically ancient human or prehuman forms on that continent.

— An ancient sepulchre at San Juan Teotihuacan, with anthropological notes on the Teotihuacan people.

Reseña de la Segunda Sesión del XVII Congreso Internacional de Americanistas, México, 1918, pp. 3-7, 1 fig. (Reprint).

HRDLIČKA, ALEŠ—Continued.

A report on the excavation of a very interesting grave in the vicinity of the "Pyramid of the Sun" at San Juan Teotihuacan. Two skeletons belonging undoubtedly to the Teotihuacan people were discovered, with a number of archeological objects, in a circular fossa under a double cement floor. The interest in the burial lies in (1) the peculiar construction of the grave, (2) the fact that an adult man and an adult woman were buried together, suggesting sacrifice of the woman, (3) the fact that the crania show artificial head deformation of the flat-head type, and (4) the fact that the ancient occupants of Teotihuacan, or at least an important part of them, were of the brachycephalic type.

MAMMALS.

ANTHONY, H. E. Mammals of northern Malheur County, Oregon.

Bull. Amer. Mus. Nat. Hist., 32, Art. I, Mar. 7, 1913, pp. 1-27, pls. 1, 2.

Comparisons were made with material in the National Museum.

BAILEY, VERNON. Ten new mammals from New Mexico.

Proc. Biol. Soc. Washington, 26, May 21, 1913, pp. 129-134.

Describes *Eutamias atristriatus*, *Eutamias cinereicollis cinereus*, *Collopspermophilus lateralis arizonensis*, *Citellus variegatus juglans*, *Citellus tridecemlineatus holisteri*, *Zapus luteus australis*, *Sigmodon minimus goldmani*, *Eutamias limitis*, *Ochotona nigrescens* and *Sorex obcurus neomexicanus*, all new species and subspecies, in the collection of the Biological Survey, National Museum.

ELLIOTT, DANIEL GIRAUD. A review of the primates.

Monogr. I, Amer. Mus. Nat. Hist.

Vol. 1. Lemuroides and Anthropoidea. pp. 1-cxxvi, 1-317, 1-xxxviii, pls. 1-32.

Vol. 2. Anthroponidea (Continued). pp. 1-xviii, 1-382, 1-xxvi, pls. 1-39.

Vol. 3. Anthroponidea (Continued). pp. 1-xiv, 1-262, 1-cixvii, pls. 1-39.

In the preparation of this work, the author studied material in the National Museum.

GOLDMAN, E. A. New mammals from eastern Panama.

Smithsonian Misc. Coll., 60, No. 2, Sept. 20, 1912, pp. 1-18.

Describes *Peromyscus melanops*, *Marmosa incincta*, *Microsciurus isidmius vivatus*, *Peromyscus pirrensis*, *Neotomys pictus*, *Rheomys rector*, *Macrocomys darlensis*, *Heteromys crassirostris*, *Hydrochoerus isthmicus*, *Isodactylus darlingi*, *Sylvilagus gabbi messouriensis*, *Ictiocyon panamensis*, *Basaricyon gabbi ornatus* and *Cryptotis merus*, new species and subspecies.

— A new peccary from Costa Rica.

Proc. Biol. Soc. Washington, 26, Dec. 24, 1912, pp. 189, 190.

Describes *Tayassu albicinctus spiridensis*, in the collection of the National Museum.

— Descriptions of new mammals from Panama and Mexico.

Smithsonian Misc. Coll., 60, No. 2, Feb. 28, 1912, pp. 1-20.

Describes *Bradypus ignavus*, *Marmosa temera reperticia*, *Sciurus variegabilis chico*, *Oryzomys pirrensis*, *Neotomys alferi efficax*, *Rhipidomys aconitensis*, *Heteromys australis conatus*, *Agouti paca nelsoni*, *Dasyprocta punctata darlensis*, *Dasyprocta punctata guatemalensis*, *Dasyprocta punctata chiapensis*, *Potos flavus isthmicus*, *Euprocyon cancrivorus panamensis*, *Alouatta palliata inconsonans*, all new species and subspecies.

GOLDMAN, E. A. A new generic name for the Asiatic tapir.

Proc. Biol. Soc. Washington, 26, Mar. 22, 1913, pp. 65, 66.

Proposes the name *Aerocodia*.

HELLER, EDMUND. New rodents from British East Africa.

Smithsonian Misc. Coll., 59, No. 16, July 5, 1912, pp. 1-20.

Describes *Protozomys stangeri* dea, *Graphiurus murinus johnstoni*, *Graphiurus murinus isolatus*, *Lophomys thomasi*, *Otomys orestes dollmani*, *Dendromus mesomelas percevali*, *Dendromus whytei capitis*, *Lophuromys agullus margarettæ*, *Epimys alleni kaimosæ*, *Epimys coucha neumani*, *Epimys coucha durumæ*, *Epimys talitæ*, *Zelotomys hildegardæ vinaceus*, *Thomomys dolichurus littoralis*, *Lemnicomys pulchellus spermophilus*, *Pelomys fallax tridescens*, *Pelomys fallax concolor*, *Saccostomus islois*, *Cricetomys gambianus raineyi*, *Cricetomys gambianus enguvi*, *Cricetomys gambianus osgoodi*, *Thryonomys gregorianus pusillus*, *Lepus raineyi* and *Lepus kakumegæ*.

— New genera and races of African ungulates.

Smithsonian Misc. Coll., 60, No. 8, Nov. 2, 1912, pp. 1-16.

Describes *Dolicohippus*, *Sigmoceros*, *Budalis cokai kongoni*, *Budalis nakuræ*, *Budalis lelwel roosevelti*, *Beatragus*, *Sylvicapra grimmii roosevelti*, *Sylvicapra grimmii alticola*, *Ourebia montana æquatoria*, *Oreodora*, *Ammelaphus* and *Nyala*.

— New races of insectivores, bats, and lemurs from British East Africa.

Smithsonian Misc. Coll., 60, No. 12, Nov. 4, 1912, pp. 1-13.

Describes *Galago moholicocos*, *Micropteris natalensis arenarius*, *Pipistrellus aëro*, *Pipistrellus helios*, *Pachyura liza æquatoria*, *Pachyura infanticida*, *Crociodura euahelæ*, *Crociodura turba laktundæ*, *Crociodura raineyi*, *Crociodura lutreola*, *Crociodura hildegardeæ altæ*, *C. h. procera*, *Elephantulus rufescens mariakanzæ* and *Petromodromus eulanti eangi*.

HOLLISTER, N. New mammals from the highlands of Siberia.

Smithsonian Misc. Coll., 60, No. 14, Nov. 20, 1912, pp. 1-6.

Describes the following new mammals collected by the Smithsonian-

HOLLISTER, N.—Continued.

Harvard expedition to the Altai Mountains: *Myopus morulus*, *Sicista napæ*, *Allactaga griseocens*, *Phodopus crepidatus*, *Ochotona nitida*, *Mustela lymani* and *Myotis petax*.

— Five new mammals from Asia.

Proc. Biol. Soc. Washington, 26, Dec. 24, 1912, pp. 181-184.

Describes *Lepus aurigineus*, *L. guercus*, *L. swinhoei sowerbyæ*, *L. brachyurus angustidens* and *Eutamias asiaticus altaicus*.

— The names of the Rocky Mountain goats.

Proc. Biol. Soc. Washington, 26, Dec. 24, 1912, pp. 185, 186.

Shows the proper specific name for the common Rocky Mountain goat to be *americanus*, dating from Blainville, 1816, and proposes the subspecific name *columbæ* to replace *columbianus* Allen, preoccupied.

— On a specimen of *Ovis californiana* Douglas in the National Museum.

Proc. Biol. Soc. Washington, 26, Dec. 24, 1912, p. 187.

Remarks on the skin and skull of a specimen of this rare wild sheep, which was supposed to be unrepresented in museums.

— Two new polecats related to *Mustela larvata*.

Proc. Biol. Soc. Washington, 26, Jan. 18, 1913, pp. 1-4.

Describes *Mustela lineator* and *M. tiarata* from central Asia.

— Description of a new gazelle from northwestern Mongolia.

Smithsonian Misc. Coll., 60, No. 19, Feb. 8, 1913, pp. 1, 2.

Describes *Procapra altaica*; the type specimen was collected by Dr. Theodore Lyman in 1912.

— Mammals of the Alpine Club expedition to the Mount Robson region.

Canadian Alpine Journal, Special Number, 1912, (Feb. 17, 1913), pp. 1-44, pls. 1-13, map.

An annotated list of the species of mammals inhabiting the Canadian Rockies, Alberta and British Columbia, in the vicinity of Mount Robson; with critical notes on the specimens collected by the 1911 expedition of the Alpine Club of Canada.

HOLLISTER, N. Two new mammals from the Siberian Altai.

Smithsonian Misc. Colls.,
60, No. 24, Mar. 13, 1913,
pp. 1-3.

Describes *Apodemus nigritatus* and
Sorex roboratus.

— The type species of *Cuniculus*
Brisson.

Proc. Biol. Soc. Washing-
ton, 26, Mar. 22, 1913, p. 79.

Fixes the type species of *Cuniculus*
Brisson, 1762.

— A synopsis of the American minks.

Proc. U. S. Nat. Mus., 44,
No. 1965, Apr. 18, 1913,
pp. 471-480.

Revision of the forms of the Ameri-
can mink, with description, as a new
subspecies, of *Mustela vison latifera*
from the upper Mississippi valley.

— Two new Philippine fruit bats.

Proc. Biol. Soc. Washing-
ton, 26, May 3, 1913, pp.
111, 112.

Describes *Pteropus balatus* and
Pteropus mearnsi, two species col-
lected in the Philippine Islands by
Dr. E. A. Mearns.

— Mammals collected by the Smith-
sonian-Harvard Expedition to the Altai
Mountains, 1912.

Proc. U. S. Nat. Mus., 45,
No. 1900, June 21, 1913,
pp. 507-532, pls. 37-42.

Contains an account of the speci-
mens collected by the expedition
under the direction of Dr. Theodore
Lyman during the summer of 1912.

— Two new bats of the genus *Ta-*
phozous.

Proc. Biol. Soc. Washing-
ton, 26, June 30, 1913, pp.
157, 158.

Describes *Taphozous solifer* and
Taphozous asiaticus, new species.

HOWELL, ARTHUR H. Description of a
new weasel from Alabama.

Proc. Biol. Soc. Washing-
ton, 26, May 21, 1913, pp.
139, 140.

Describes *Mustela peninsula oti-*
vacea, a new subspecies, in the Bi-
ological Survey collection, National
Museum.

JACKSON, HARTLEY H. T. Two new
weasels from the United States.

Proc. Biol. Soc. Washing-
ton, 26, May 21, 1913, pp.
123, 124.

Describes *Mustela primulina* and
Mustela campestris, new species in
the Biological Survey collection,
National Museum.

MERRIAM, C. HART. Six new ground
squirrels of the *Citellus mollis* group
from Idaho, Oregon and Nevada.

Proc. Biol. Soc. Washing-
ton, 26, May 21, 1913, pp.
135-138.

Describes *Citellus idahoensis*, *C.*
leurodon, *C. canus agilis*, *C. mollis*
attemoriz, *C. m. pessimus* and *C. m.*
washoensis; all in the Biological
Survey collection, National Museum.

MILLER, GERRIT S., jr. A new chamois
from the Apennines.

Proc. Biol. Soc. Washing-
ton, 26, July 31, 1913, pp.
131-134.

Describes *Rupicapra faezula*, a new
species.

— The new catalogue of Chiroptera
in the British Museum.

Science (n. s.), No. 929,
Oct. 18, 1912, pp. 525-527.

A review of the "Catalogue of the
Chiroptera in the collection of the
British Museum," second edition, by
Knud Andersen. Vol. 1, Megachi-
roptera.

— Catalogue of the mammals of west-
ern Europe (Europe exclusive of Rus-
sia) in the collection of the British
Museum.

Printed by order of the
Trustees of the British
Museum, London, Nov.
23, 1912, pp. i-xv and
1-1019, 213 figs.

Based largely on the European
material (about 4,000 specimens) in
the National Museum.

— List of North American land
mammals in the United States National
Museum, 1911.

Bull. U. S. Nat. Mus., No.
79, Dec. 31, 1912, pp.
1-455.

MILLER, GERRIT S., jr. Five new mammals from tropical America.

Proc. Biol. Soc. Washington, 26, Feb. 8, 1913, pp. 31-34.

Describes *Marmosa muriei*, *Glossophaga rostrata*, *Brachyphylla minor*, *Ardops annectens*, *Promops pamana*, all new species.

—— A new Pteropine bat from Luzon.

Proc. Biol. Soc. Washington, 26, Mar. 22, 1913, pp. 73, 74.

Describes *Eonycteris robusta*, a new species.

—— Some overlooked names of Sicilian mammals.

Proc. Biol. Soc. Washington, 26, Mar. 22, 1913, pp. 80, 81.

Gives *Apodemus flavicollis rusiges* as new name for *Apodemus sylvaticus dichrurus*.

—— A new vole from eastern Mongolia.

Smithsonian Misc. Colls., 60, No. 26, Mar. 31, 1913, pp. 1, 2, pl. 1.

Describes *Microtus warringtoni*, a new species.

MILLER, GERRIT S., jr. A new shrew from Baltistan.

Proc. Biol. Soc. Washington, 26, May 3, 1913, pp. 113, 114.

Describes *Crocidura pergrisea*, a new species.

—— A new cacomistle from Nevada.

Proc. Biol. Soc. Washington, 26, June 30, 1913, p. 159.

Describes *Basarictus astutus nevadensis*, a new subspecies.

OSGOOD, WILFRED H. New Peruvian mammals.

Field Mus. Nat. Hist., Pub. Zool., 10, No. 9, May 31, 1913, pp. 93-100.

In the preparation of this paper use was made of material in the National Museum.

TRUE, FREDERICK W. Diagnosis of a new beaked whale of the genus *Mesoplodon* from the coast of North Carolina.

Smithsonian Misc. Colls., 60, No. 26, Mar. 14, 1913, pp. 1, 2.

Describes *Mesoplodon mirum*, a new species.

BIRDS.

AMERICAN ORNITHOLOGISTS' UNION COMMITTEE ON NOMENCLATURE. Sixteenth supplement to the American Ornithologists' Union Check-list of North American Birds.

Auk, 29, No. 3, July, 1912, pp. 380-387.

A list of the rulings of the Committee, comprising 17 additions to the Check-list, and 24 proposed changes in nomenclature not accepted, made since the publication of the last supplement.

BANGS, OUTRAM. Some birds from the highlands of Siberia.

Bull. Mus. Comp. Zool., 54, No. 16, Jan., 1913, pp. 463-474, figs. 1-8.

Notes on 53 species collected in the Altai Mountains by the Smithsonian-Harvard expedition. *Falco exilis lymani*, *Picus colanucleator pacata* and *Perisoreus infaustus opicus* are described as new.

—— (See also under John E. Thayer.)

BEEBE, C. WILLIAM. New blood pheasants.

Zoologica, 1, No. 10, Aug. 17, 1912, pp. 189-193.

Ithaginis kuseri, and *I. cruentus affinis* are considered new.

BENT, A. C. A new subspecies of crossbill from Newfoundland.

Smithsonian Misc. Colls., 60, No. 15, Dec. 12, 1912, pp. 1-3.

Loxia curvirostra perna is described as new.

BROWN, EDWARD J. Rare Virginia birds.

Auk, 29, No. 3, July, 1912, p. 399.

Record of four species, including *Puffinus griseus*, from the coast of Virginia.

CHAPMAN, FRANK M. Diagnoses of apparently new Colombian birds.

Bull. Amer. Mus. Nat. Hist., 31, Art. 16, July 23, 1912, pp. 139-166, pl. xii (map).

The following species and subspecies are described: *Crypturus*

CHAPMAN, FRANK M.—Continued.

sousi caucæ, *Chamaepetes sanctæ-martæ*, *Leptotila verreauxi occidentalis*, *Pionopeltis fuersti*, *Capito maculicoronatus rubrilateralis*, *Venillornis nigriceps equifasciatus*, *Rhamphocelus rufiventris griseodorsalis*, *Dryophilus caudatus striaticeps*, *Formicarius rufpectus carrikeri*, *Grallaria milleri*, *G. alleni*, *Upucerthia excelsior columbiana*, *Synallaxis gularis rufpectus*, *S. g. cinereiventris*, *Picolaptes lacrymiger sanctæ-martæ*, *Xenocops subalaris columbianus*, *Xipolegus columbianus*, *Mucosarcicola alpina columbiana*, *Myiodynastes chryscephalus intermedius*, *Tyranniscus chrysops minimus*, *T. nigricapillus flavimentum*, *Platyparis homochrous canescens*, *Attila fuscicauda*, *Rupicola peruviana aurea*, *Phæoprogne tapera immaculata*, *Troglodytes solitarius pallidipectus*, *Thryophilus nigricapillus connectens*, *Cinnicerthia olivascens infusciata*, *Planesticus fusco-brunneus*, *Vireosylva chivi caucæ*, *Basilæuterus richardsoni*, *Spinus nigricauda*, *Ammodramus savannarum caucæ*, *Myiozetes manibæ columbiana*, *Atlapetes flaviceps*, *Cyanocompa cyanea caucæ*, *Diglossa cryptorhina*, *D. gloriolæstima*, *Sporothraupis cyanocephala margaritæ*, and *Chloroepingus albitempora nigriceps*.

CLARK, HUBERT LYMAN. Anatomical notes on some genera of passerine birds.

Auk, 30, No. 2, April, 1913, pp. 262-267.

Notes on certain anatomical features of the genera *Saltator*, *Chlorophonia* and *Euphonia*.

COOKE, WELLS W. Distribution and migration of North American herons and their allies.

U. S. Dept. Agric., Biological Survey, Bull. No. 45, May 24, 1913, pp. 1-70, figs. 1-21.

This bulletin gives a statement of the distribution and migration of the North American herons, ibises, spoonbills, and storks, and is illustrated by maps showing the manner of occurrence of each species in various parts of its range.

CORY, CHARLES B. Descriptions of twenty-eight new species and subspecies of neotropical birds.

Field Mus. Nat. Hist., Pub. 167, Ornith. Ser., I, No. 7, May 31, 1913, pp. 283-292.

The following birds, chiefly from Peru and Venezuela, are diagnosed

CORY, CHARLES B.—Continued.

as new: *Nothocercus juitus venezuelensis*, *Eupychortyx cristatus continentis*, *Urochroma costaricensis*, *Plays cayana venezuelensis*, *Momotus ogozdi*, *Scytalopus magellanicus grandis*, *Threnetes frazeri venezuelensis*, *Anthraco-thorax prevosti viridicordatus*, *Glaucidium hirsuta fuscus*, *Thaumatocora cora montana*, *Laticauda rubiginosa*, *Gallinula ruficauda brevirostris*, *Chelidoptera tenebrosa pallida*, *Picumnus venezuelensis*, *Phaethornis anthrophilus fuscicapillus*, *Camptostoma pusillum tenuirostris*, *Empidonax sullensis*, *Inezia caudata intermedia*, *Attila rufpectus confinis*, *Thamnophilus dolatus deardorfi*, *Dendrocinclos tyrannus hellmayri*, *Furnarius agnatus venezuelensis*, *Margarornis perlata peruviana*, *Microhospes grisea fumosa*, *Careba luteola obscura*, *Diglossa sitoides intermedia*, *Synallaxis candovenenzuelensis*, and *Atlapetes castaneifrons tamae*.

EVERMANN, BARTON WARREN. Eighteen species of birds new to the Pribilof Islands, including four new to North America.

Auk, 30, No. 1, Jan., 1913, pp. 15-18.

Merula fulgula, *M. ferma*, *Cryptoglaux funerea funerea*, and *Ocothraustes japonicus* are recorded for the first time from North America, and fourteen other species are enumerated as new to the Pribilof Islands.

GRINNELL, JOSEPH. *Leucosticte tephrocotis dawsoni*—a new race of rosy finch from the Sierra Nevada.

Ondor, 15, No. 2, Mar. 25, 1913, pp. 76-79.

MEARNS, EDGAR A. Description of a new African grass-warbler of the genus *Cisticola*.

Smithsonian Misc. Coll., 60, No. 20, Feb. 14, 1913, pp. 1, 2.

Cisticola prinioides wambugensis is described as new.

MILLER, W. DEW. A revision of the classification of the kingfishers.

Bull. Amer. Mus. Nat. Hist., 31, Art. 22, Sept. 12, 1912, pp. 289-311, pls. 25, 26.

Three subfamilies are recognized, *Cerylinæ* (with 3 genera), *Alcedinæ* (with 7 genera) and *Daceloninæ* (with 12 or more genera), with the genus *Ramphaleya* possibly constituting a fourth group. Diagnoses of the sub-

MILLER, W. DEW.—Continued.

families are given, with much anatomical and other data. The genera and species of the subfamily Cerylinæ are discussed in detail.

NELSON, E. W. Descriptions of new genera, species and subspecies of birds from Panama, Colombia and Ecuador.

Smithsonian Misc. Coll.,
60, No. 3, Sept. 27, 1912,
pp. 1-26.

The following birds, based chiefly upon collections made during the Smithsonian Biological Survey of the Panama Canal Zone, are described as new: *Geotryon goldmani*, *Chloroneryx chrysoclorus eurusus*, *Aulacorhamphus ceruleigularis cognatus*, *Momotus conerxus reconditus*, *Electron platyrhynchus suboles*, *Gathaleia bella*, *Eriocnemis floccus*, *Phaethornis adolphi*, *fraterculus*, *Thammodites anabatinus coronatus*, *Dysithamnus mentalis rufus*, *Herpetiochnus rufimarginatus exiguus*, *Oralloricula flavirostris brevis*, *Margarornis bellulus*, *Mitrephanes eminulus*, *Prado audax*, *Cerythraustes canadensis simulans*, *Tanagra zanthogastra guianensis*, *Tangara fuscus*, *Hylaspingus inornatus*, *Chrysomitris chrysomelas ocularis*, *Hemithrupis ornatus*, *Vireolanus eximius mutabilis*, *Basileuterus melanogenys ignotus*, *B. m. eximius*, *Troglodytes festinus*, *Myadestes coloratus*, and *Cutharus fuscater mirabilis*. *Gathaleia*, *Prado* and *Hylaspingus* are new genera from the Mount Pirri region.

Two new subspecies of birds from the slopes of Mount Pirri, eastern Panama.

Smithsonian Misc. Coll.,
60, No. 21, Feb. 26, 1913,
pp. 1, 2.

Capito maculicoronatus pirriensis and *Pseudotriccus pelzelni berlepecki* are described as new.

A new subspecies of Nun bird from Panama.

Proc. Biol. Soc. Washington,
26, Mar. 22, 1913, p. 67.

Monasa pallens minor is based on specimens collected by the Smithsonian Biological Survey of the Panama Canal Zone.

OBERHOLSER, HARRY C. A revision of the subspecies of the green heron (*Butorides virescens* [Linnaeus]).

Proc. U. S. Nat. Mus., 42,
No. 1916, Aug. 20, 1912,
pp. 529-577.

Based on a study of 568 specimens. Of the eighteen forms recognized, the

OBERHOLSER, HARRY C.—Continued.

following are here described for the first time: *Butorides virescens aremonensis*, *B. v. mesatus*, *B. v. hypernotus*, *B. v. margaritophilus*, *B. v. cubensis*, *B. v. christophorensis*, *B. v. dominicensis*, *B. v. lucianus*, *B. v. barbadensis*, *B. v. grenadensis*, *B. v. tobogensis*, and *B. v. curacensis*.

Descriptions of one hundred and four new species and subspecies of birds from the Barusan Islands and Sumatra.

Smithsonian Misc. Coll.,
60, No. 7, Oct. 26, 1912,
pp. 1-22.

The following species and subspecies, based on collections made by Dr. W. L. Abbott, are described as new: *Butorides javanicus actophilus*, *B. j. icastopterus*, *Amaurornis phaeicura cleptes*, *Macropygia emilliana classis*, *M. e. hypoperenna*, *Muscadivores amicus mistus*, *Dendrophassa vernans mesochloa*, *D. v. polioptila*, *D. v. niza*, *D. fulvicollis melopopenya*, *Trogon curvirostris hypochaspeus*, *T. c. smicra*, *T. c. paga*, *T. c. haliplos*, *Coccyzus fasciatus perioncus*, *C. f. calus*, *Pelittinus cyanurus pontius*, *Loriculus galgulus lamprochlorus*, *L. g. dolichopterus*, *Burniculus lugubris barusanus*, *Coccyzus merulinus subpallidus*, *Melipotes tukki calousicus*, *M. graminthorax microterus*, *Micropternus phalacrope celanephle*, *Chotora mystacophanes ampala*, *Masobucco duvaucelli gigantorhinus*, *Cranorrhina corrugatus megistus*, *Alcedo meninting callima*, *Alcedo meninting subotridis*, *Ceryx enopopygius*, *Caprimulgus mirificus*, *Hemiprocne longipennis occytera*, *H. l. thosa*, *Euryleimurus ochromelus meclitus*, *Pitta moluccensis lepta*, *Anuropsis malaccensis nestle*, *A. m. esanguis*, *Alcippe cinerea hypocneca*, *Stachyris maculata hypopyrrha*, *Cyanoderma erythropterus peltum*, *Microrhis pileata septera*, *M. p. sabbada*, *Agathina tiphia horisoptera*, *A. stridissima nesiotica*, *Microrhis melanocephalus chrysophorus*, *M. m. hyperemus*, *Pycnonotus erythrophthalmos cynochrus*, *P. e. leus*, *P. e. pamnicus*, *P. olivaceus chloedus*, *P. plumosus porphyreus*, *Muscitra grisola nesiotica*, *Gerygone modiglianii muscirope*, *Ethnomystas umbratilis edipis*, *Culiciceps ceylonensis percnocera*, *C. c. amphiale*, *C. c. pallonota*, *Copechus acularis zacnecus*, *Ektacincia melanura hypolea*, *K. m. opisthochra*, *K. malebarica opisthopala*, *K. m. opisthis*, *Orthotomus cinereus barus*, *O. c. ochromatus*, *Burnesia dysencrita*, *B. d. halidona*, *Artemides sumatrensis holt-*

OBERHOLSER, HARRY C.—Continued.

stephis, *Pericrocotus igneus trophis*, *P. andamanensis minyikomelae*, *Lalage nigra empheris*, *Dicrurus leucogenis diporus*, *D. cinereus celenus*, *Dissemurus paradiseus olivaceus*, *D. p. adelphus*, *D. p. pachistus*, *D. p. elaeopterus*, *Oriolus maculatus richmondi*, *Gracula javanensis miotera*, *G. j. ophelochlora*, *Lamprocorax chalybeus pachistorhinus*, *L. c. rhadinorhamphus*, *Chalcostetha calcostetha pacicola*, *Æthopyga siparaja tinoptila*, *A. s. meaneura*, *A. s. photina*, *Cinnyris ornata polycycta*, *C. brasiliensis anopa*, *C. b. macynorhyncha*, *C. b. hypolempis*, *Arachnothraus longirostris melanchnis*, *A. l. crochra*, *A. l. hypochra*, *A. l. sarkina*, *A. chrysogenys copha*, *A. c. isopege*, *A. c. pleoantha*, *Anthreptes malacensis nesus*, *A. m. pelloptilus*, *A. m. pollostus*, *Chalcoparia singalensis panopeis*, *Dicrurus trigonostigma antiopectum*, *D. t. lyprum*, *D. t. melanthe*, and *Anaimos maculatus opistatus*.

— A revision of the forms of the great blue heron (*Ardea herodias* Linnaeus).

Proc. U. S. Nat. Mus., 43, No. 1930, Dec. 12, 1912, pp. 531-550.

Based on a study of 221 specimens. Ten subspecies are recognized, of which the following are here first described: *Ardea herodias adams*, *A. h. hyperonca*, and *A. h. oligista*.

PALMER, T. S. The harlequin duck in Wyoming.

Auk, 30, No. 1, Jan., 1912, pp. 105, 107.

Cites several records of this species in Wyoming and other parts of the Rocky Mountains.

PHILLIPS, JOHN C. A reconsideration of the American black ducks with special reference to certain variations.

Auk, 29, No. 3, July, 1912, pp. 295-306, pl. 15.

A discussion of individual and sexual variation in *Anas tristis* and allies. The author believes *Anas fulvigula maculosa* to be a synonym of *A. fulvigula*, and *A. eberli* is shown to be equivalent to *A. wyvilliana*.

RAMSDEN, CHAS. T. Maynard's cuckoo (*Coccyzus minor maynardi* Ridgway) in Cuba.

Auk, 29, No. 3, July, 1912, pp. 393, 394.

Notes on the occurrence of this form in Cuba.

RILEY, J. H. A new name for *Tanagra sclateri* Berlepech.

Proc. Biol. Soc. Washington, 25, Dec. 24, 1912, p. 185.

Threupis episcopus neophilus is proposed, owing to the prior establishment of *Tanagra sclateri* Sundevall.

— Birds collected or observed on the expedition of the Alpine Club of Canada to Jasper Park, Yellowhead Pass, and Mount Robson region.

Canadian Alpine Journal, Special Number, 1912 (Feb., 1912), pp. 47-75, pls. 1, 2.

An account of the 78 species and subspecies of birds collected or noted during the expedition of 1911.

— A new hummingbird of the genus *Chlorostilbon* from Brazil.

Proc. Biol. Soc. Washington, 26, Mar. 22, 1913, pp. 63, 64.

Chlorostilbon purpureus is described as new.

— The king rail of Cuba.

Proc. Biol. Soc. Washington, 26, Mar. 22, 1913, pp. 83-85.

The Cuban king rail is differentiated as *Rallus elegans ramdeni*.

— The Bahama barn owl.

Proc. Biol. Soc. Washington, 26, June 30, 1913, pp. 153, 154.

Tyto perlatius lucayanus is described as new.

SHELLEY, G. E. The Birds of Africa, comprising all the species which occur in the Ethiopian region. By G. E. Shelley, F. Z. S., F. R. G. S., &c., (late Grenadier Guards), author of "A handbook to the birds of Egypt," "A monograph of the sun-birds," etc. Vol. V. Pt. II, completed and edited by W. L. Sclater, M. A., F. Z. S. London: Henry Sotheran & Co., 43 Piccadilly, W., and 140 Strand, W. C., 1912.

Royal 8vo., pp. i-viii, 165-502, pls. I-LVII.

Embraces the section "Lani," with five families, and over 200 species and subspecies. *Vanga alectonactes* is described as a new species.

SHUFELDT, R. W. American ducks and how to distinguish them.

Oster's Book, 24, 1912; No. 1, July, pt. 5, pp. 26-31, figs. 16-21; No. 2, Aug., pt. 6, pp. 132-139, figs. 22-26; No. 3, Sept., pt. 7, pp. 238-245, figs. 27-32; No. 4, Oct., pt. 8, pp. 356-362, figs. 33-38; No. 5, Nov., pt. 9, pp. 470-474, figs. 39-43; No. 6, Dec., pt. 10, pp. 581-585, figs. 44-47.

— Study of the eggs of the Meleagridæ.

Condor, 14, No. 6, Nov. 30, 1912, pp. 209-213, fig. 82.

Description of the eggs of *Meleagris gallopavo silvestris*, with notes on other forms of the genus.

— On the comparative osteology of *Cereopsis novæ-hollandiæ*.

Emu, 12, pt. 4, Apr. 1, 1913, pp. 209-237, pls. 28-34.

A description of the skeleton of the *Cereopsis* geese, with comparison of numerous other Anserine types.

STONE, WITMER. A new *Synallaxis*.

Proc. Acad. Nat. Sci. Phila., Sept. 6, 1912, p. 365.

The Ecuadorian form of *Synallaxis gularis* is separated as *S. g. pichinche*.

SWALES, B. H. Northern phalarope (*Lobipes lobatus*) in Michigan.

Auk, 30, No. 1, Jan., 1913, pp. 111, 112.

Cites records of this species in Michigan.

THAYER, JOHN E., and OUTRAM BANGS. Some Chinese vertebrates. Aves.

Memoirs Mus. Comp. Zool., 40, No. 4, Aug., 1912, pp. 137-200, pls. 3-6.

A report on the birds of the Thayer expedition to China. Over 350 species and subspecies are enumerated, of which the following are described as new: *Rhageneis wilsoni*, *Collocalitis inopina pellois*, *Heteractiniscus cruralis formaster*, *Troglodytes grallator*, *Euthora unicolor canaster*, *S. zappeyi*, *Phoenicurus maritimus*, *Oreocincla dauma socia*, *Reguloides maculipennis debilis*, *Prinia inornata exilis*, *Sylviparus modestus oculatus*, and *Boonerges intermedius*. *Boonerges* is a new genus of Corvidæ, related to *Perisoreus*.

TODD, W. E. CLYDE. A revision of the genus *Chamaepelia*.

Annals Carnegie Mus., 8, Nos. 3-4, May 8, 1913, pp. 507-603.

A carefully prepared paper, based on a study of nearly 2,000 specimens, representing all the known forms. The generic synonymy and that relating to the various forms is unusually complete and accurate. The following subspecies are considered new: *Chamaepelia passerina parvula*, *C. p. nana*, *C. p. gutturalis*, *C. minuta elizoides* and *C. rufipennis nesophilus*. *Eupelia* is a new genus.

REPTILES AND BATRACHIANS.

BRIMLEY, C. S. Notes on the salamanders of the North Carolina mountains with descriptions of two new forms.

Proc. Biol. Soc. Washington, 25, Dec. 4, 1912, pp. 135-140, pls. 6, 7.

Plethodon metcalfei and *Spelerpes ruber schencki* are described as new species. The type, together with a number of specimens of other species, have been deposited in the National Museum.

HOLLISTER, N. List of reptiles and batrachians of the Alpine Club expedition to the Mount Robson Region.

Canadian Alpine Journal, Special Number, 1912 (Feb. 17, 1913), pp. 45, 46.

STEJNEGER, LEONHARD. A new lizard from Porto Rico.

Proc. Biol. Soc. Washington, 26, Mar. 22, 1913, pp. 69-72.

Ameiva weismanni is described as a new species; the type is in the National Museum.

— Results of the Yale Peruvian Expedition of 1911.—Batrachians and reptiles.

Proc. U. S. Nat. Mus., 45, No. 1992, June 4, 1913, pp. 541-547.

Bufo inca, *Eleutherodactylus binghami*, *E. feciei*, *Stenocercus ervingi*, and *Oreosaurus lacertus* are described as new species.

FISHES.

BEAN, BARTON A., and ALFRED C. WEED.

Notes on a collection of fishes from Java, made by Owen Bryant and William Palmer in 1909, with description of a new species.

Proc. U. S. Nat. Mus., 42, No. 1919, Aug. 30, 1912, pp. 587-611, pls. 73-75, figs. 1-3.

Annotated list of 979 specimens representing 106 genera and 182 species, one of which, *Agonostomus bryanti*, is described as new.

BEAN, TARLETON H. Description of new fishes of Bermuda.

Proc. Biol. Soc. Washington, 25, July 31, 1912, pp. 121-126.

The following species are described as new: *Sardinella pinnula*, *Stolephorus viridis*, *Eucrotus ventralis*, *Paraphrynosoma atrimanus*, *Anthias louis*, *Pseudoscarus plumbeus*, *Pontinus microlepis*, and *Emblemaria markii*.

BURKE, CHARLES VICTOR. A new genus and six new species of fishes of the family Cyclogasteridae.

Proc. U. S. Nat. Mus., 43, No. 1941, Dec. 12, 1912, pp. 567-574.

The results of an examination by the author of the Cyclogasteridae in the collection of the National Museum, and that of the Museum of Comparative Zoology, Cambridge, Mass., are here recorded. The new genus *Polypera* based on *Polypera greeni*, and the following species are described as new: *Cyclogaster bristolense*, *Cyclogaster megacephalus*, *Careproctus gilberti*, *Paraliparis deani*, *P. garmani*, and *Rhinoliparis attenuatus*.

— (See also under Charles H. Gilbert.)

GILBERT, CHARLES H. Descriptions of two new fishes of the genus *Triglopes* from the Atlantic coast of North America.

Proc. U. S. Nat. Mus., 44, No. 1963, Apr. 30, 1913, pp. 465-468, pl. 64.

The author describes two new subspecies of the genus *Triglopes* found in the North Atlantic, naming the form from the coast of New England *Triglopes ommatichius*, and that from off Newfoundland *Triglopes ommatichius terranovae*. They had been recorded as belonging to the old species *Triglopes pingell*.

GILBERT, CHARLES H., and C. V. BURKE. New cyclogasterid fishes from Japan.

Proc. U. S. Nat. Mus., 42, No. 1907, July 3, 1912, pp. 351-380, pls. 41-48, figs. 1-18.

Records from Japanese waters 31 species of Cyclogasterids, 23 of which are here described as new.

GUDGER, E. W. Natural history notes on some Beaufort, N. C., fishes.—1912.

Proc. Biol. Soc. Washington, 26, May 3, 1913, pp. 97-100.

Notes based on observations of sharks, rays and other fishes.

JORDAN, DAVID STARR. Note on the generic name *Safole*, replacing *Boulengerina*, for a genus of Kuhliid fishes.

Proc. U. S. Nat. Mus., 42, No. 1922, August 29, 1912, p. 655.

— Description of *Anguilla manabei*, a new eel from Japan.

Proc. U. S. Nat. Mus., 44, No. 1957, Apr. 3, 1913, pp. 359, 360, pl. 57.

— and CHARLES WILLIAM METZ. Descriptions of two new species of fishes from Honolulu, Hawaii.

Proc. U. S. Nat. Mus., 42, No. 1915, August 30, 1912, pp. 525-527, pl. 71.

Holacanthus potteri and *Chromis verater* are described as new species.

— and JOHN OTTERBEIN SNYDER. Description of the Yachats "Smelt," a new species of Atherinoid fish from Oregon.

Proc. U. S. Nat. Mus., 45, No. 1969, June 21, 1913, pp. 575, 576, pl. 46.

Describes *Atherinops oregonia*.

KENDALL, WILLIAM C. Notes on a new species of flatfish from off the coast of New England.

Bull. Bur. Fish., 30, No. 764, Aug. 13, 1912, pp. 389-394, pl. LVII.

Pseudopleuronectes dignabilis is described as new.

METZ, CHARLES WILLIAM. (See under David Starr Jordan.)

RADCLIFFE, LEWIS. Descriptions of a new family, two new genera, and twenty-nine new species of Anacanthine fishes

RADCLIFFE, LEWIS—Continued.

from the Philippine Islands and contiguous waters. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 21.]

Proc. U. S. Nat. Mus., 43, No. 1924, Sept. 27, 1912, pp. 105-140, pls. 22-31, figs. 1-11.

The new family is Macrouroidæ, Smith and Radcliffe; and the new genera are *Macrouroides*, Smith and Radcliffe, and *Parateleopus*, Smith and Radcliffe.

— Descriptions of seven new genera and thirty-one new species of fishes of the families Brotulidæ and Carapidæ from the Philippine Islands and the Dutch East Indies. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 24.]

Proc. U. S. Nat. Mus., 44, No. 1948, Apr. 3, 1913, pp. 135-176, pls. 7-17.

— (See also under Hugh M. Smith.)

— and WILLIAM W. WELSH. Description of a new darter from Maryland.

Bull. Bur. Fish., 32, No. 773, May 24, 1913, pp. 31, 32, pl. XVIII.

Hadropterus sellaris is described from specimens seized in Swan Creek, near Havre de Grace, Md.

SMITH, HUGH M. The Hemiscylliid sharks of the Philippine Archipelago, with description of a new genus from the China Sea. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 28.]

Proc. U. S. Nat. Mus., 45, No. 1997, June 21, 1913, pp. 567-569, pl. 45, figs. 1, 2.

Cirrhoscyllium is described as a new genus, with *Cirrhoscyllium exipolium* Smith and Radcliffe, as the type species.

— Description of a new carcharioid shark from the Sulu Archipelago. [Scientific results of the Philippine cruise

SMITH, HUGH M.—Continued.

of the Fisheries steamer "Albatross," 1907-1910.—No. 29.]

Proc. U. S. Nat. Mus., 45, No. 2003, June 21, 1913, pp. 599-601, pl. 47, figs. 1-3.

Describes *Eridacnis radcliffi*.

— and LEWIS RADCLIFFE. Description of a new family of pediculate fishes from Celebes. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 20.]

Proc. U. S. Nat. Mus., 42, No. 1917, Aug. 30, 1912, pp. 579-581, pl. 72.

Describes a remarkable new form, made the basis of a new family, Thaumathichthyidæ, of which the type genus is *Thaumathichthys* Smith and Radcliffe, and the type of the genus *Thaumathichthys pagidostomus*.

SNYDER, JOHN OTTERBEIN. Japanese shore fishes collected by the United States Bureau of Fisheries steamer "Albatross" Expedition of 1906.

Proc. U. S. Nat. Mus., 42, No. 1909, Aug. 30, 1912, pp. 399-450, pls. 51-61, figs. 1, 2.

— The fishes of Okinawa, one of the Riu Kiu Islands.

Proc. U. S. Nat. Mus., 42, No. 1913, Aug. 30, 1912, pp. 487-519, pls. 62-70.

A list of 293 species with an account of the fishes of Okinawa, based on a collection made by the Bureau of Fisheries steamer "Albatross" during the 1906 cruise in the North Pacific Ocean, along the shores of Japan.

— A new species of trout from Lake Tahoe.

Bull. Bur. Fish., 32, No. 768, Dec. 31, 1912, pp. 25-28.

Salmo regalis is described as new.

— Notes on *Ranzania makua* Jenkins and other species of fishes of rare occurrence on the California coast.

Proc. U. S. Nat. Mus., 44, No. 1961, Apr. 12, 1913, pp. 455-460, pl. 63.

— (See also under David Starr Jordan.)

WEED, ALFRED C. (See under Barton A. Bean.)

WELSH, WILLIAM W. (See under Lewis Radcliffe.)

ASCIDIANS.

BITTER, WILLIAM E. The simple ascidians from the northeastern Pacific in the collection of the United States National Museum.

Proc. U. S. Nat. Mus., 45, No. 1989, June 26, 1913, pp. 427-505, pls. 33-36.

Treats of 41 species and subspecies belonging to 6 families and 18 genera; one genus (*Hartmeyeria*), 12 species and one subspecies are described as new. Gives tables showing horizontal and vertical distribution, discusses Hartmeyer's nomenclature, and closes with a bibliography.

VAN NAME, WILLARD G. Simple ascidians of the coast of New England and neighboring British provinces.

Proc. Boston Soc. Nat. Hist., 34, No. 13, Aug., 1912, pp. 439-619, pls. 43-73, figs. 1-43.

Based largely on collections made by the U. S. Fish Commission from 1871 to 1887, inclusive. The descriptions of species are preceded by a review of the literature and a chapter on distribution and followed by a bibliography. Forty species are described of which 8 are new.

MOLLUSKS.

BARTSCH, PAUL. The bearing of ocean currents on the problem of the unity or plurality and the probable place of origin of the American aborigines.

Amer. Anthropologist, 14, No. 1, Jan.-Mar., 1912, pp. 49, 50.

——— Planting Bahama cerions upon the Florida Keys.

Carnegie Institution of Washington, Year Book No. 11, 1912, pp. 129-131.

An account of a collecting trip to the Bahamas and the planting of Bahama cerions on the Florida Keys with the hope that these experiments may throw light on the factors involved in the great differentiation into races which has taken place in this group.

——— The giant species of the molluscan genus *Lima* obtained in Philippine and adjacent waters. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 26.]

Proc. U. S. Nat. Mus., 45, No. 1978, June 13, 1913, pp. 235-240, pls. 12-20.

The known giant *Limas* are discussed, and a new subgenus *Callolima* and the following new species obtained during the cruise are described: *Lima* (*Aceta*) *verdensis*, *L. (A.) celebensis*, *L. (A.) butonensis*, *Lima* (*Callolima*) *smithi*, *L. (C.) rubicund*, *L. (C.) philippinensis*, *L. (C.) borneensis*.

——— The Philippine mollusks of the genus *Dimya*. [Scientific results of the Philippine cruise of the Fisheries

BARTSON, PAUL—Continued.

steamer "Albatross," 1907-1910.—No. 27.]

Proc. U. S. Nat. Mus., 45, No. 1983, June 13, 1913, pp. 305-307, pls. 27, 28.

The known recent *Dimyas* are discussed and the following species obtained during the cruise are described as new: *Dimya filipina* and *D. hma*.

——— New land shells from the Philippine Islands.

Proc. U. S. Nat. Mus., 45, No. 1993, June 21, 1913, pp. 549-553, pl. 43.

Obba worcesteri and *Cochlostyla clausenensis* from Olanivan Island and *Cochlostyla calussenensis* from Calusa Island are described as new. They were collected by the Hon. Dean C. Worcester, Secretary of the Interior of the Philippine Islands.

BERRY, S. STILLMAN. Some new Hawaiian cephalopods.

Proc. U. S. Nat. Mus., 45, No. 1996, June 4, 1913, pp. 563-566.

Establishes a new genus *Luzmotuthis*, with *L. lugubris* as the type, which is described together with the following new species: *Scarurus patagialis*, *Euprymna scolopes*, *Telotuthis compacta*, *Abraia trigonura*, and *Pterygotuthis microlampas*.

DALL, WILLIAM HEALEY. New species of land shells from the Panama Canal Zone.

Smithsonian Misc. Coll., 59, No. 18, July 27, 1912, pp. 1-3, pls. 1, 2.

DALL, WILLIAM HEALEY. Mollusk fauna of northwest America.

Journ. Acad. Nat. Sci. Phila., 15, 2nd ser., Centennial volume; Sept. 7, 1912, pp. 243-248.

Discusses the history of the exploration of this fauna, in which the Smithsonian Institution through Dr. Philip Pearsall Carpenter was an important factor; and explains its characteristics.

——— Note on the generic name *Pectunculus*.

Proc. Malacol. Soc. London, 10, pt. 3, Oct., 1912, pp. 255, 256.

Shows that the name was first applied in binomial nomenclature to *Cardium edule* Linnaeus, and can not therefore be used for the other groups to which it has subsequently been applied.

——— Feeding habits of *Ariolimax*.

Nautilus, 26, No. 9, Jan., 1913, p. 108.

Describes the feeding habits as observed by Dr. C. Hart Merriam in California.

——— Note on *Cyprina islandica*.

Proc. Malacol. Soc. London, 10, pt. 4, Mar., 1913, p. 286.

Discusses the nomenclature of this species.

——— Charles W. Gripp.

Nautilus, 26, No. 11, Mar., 1913, p. 132.

Obituary notice of a valuable contributor to the National Museum collection.

DALL, WILLIAM HEALEY. Shells collected at Manzanillo, West Mexico, October, 1910.

Nautilus, 26, No. 12, Apr., 1913, p. 143.

A catalogue of species collected at Manzanillo by C. R. Orcutt and sent by him to the National Museum.

——— Diagnoses of new shells from the Pacific Ocean.

Proc. U. S. Nat. Mus., 45, No. 2002, June 11, 1913, pp. 587-597.

Diagnoses of new genera and species represented in the collection of the National Museum, namely: New genus, *Halkardissa* based on *Verticordia perplicata* Dall, Galapagos Islands; *Cosmiocoencha*, subgenus of *Amphisea*, type *Buccinum modestum* Powys, Gulf of California; and the following new species: *Tritonofusus jordanii*, Puget Sound; *Boreotrophon gorgon*, Hondo, Japan; *Amphisea* (*Cosmiocoencha*) *palmeri*, A. (C.) *pergracilis*, A. (C.) *peruana*, *Liota lurida*, all from the Gulf of California; *Bolma bartschii*, Moluccas; *Margarites sinblus*, California; *Calliostoma nepheleide*, Panama; *Pecten* (*Pseudamastus*) *arceus*, California; *Cuspidaria subglacialis*, California; *Pschidia cyanea*, Lower California; *Lyonsia* (*Allogramma*) *amabilis*, California; *L. (A.) oahuensis*, Hawaiian Islands; *Lyonsia pugetensis*, Puget Sound; *Lyonsiella magnifica*, Mazatlan; *Poromya* (*Dermatomya*) *tenusconcha*, Monterey Bay, California; *Erycina colpoeca*, Gulf of California; *Rochefortia compressa*, *Alipena nucis*, and *Verticomya* (*Archioesica*) *suavis*, from the Gulf of California.

PROTOTRACHEATA.

CLARK, AUSTIN HOBART. A revision of the American species of *Peripatus*.

Proc. Biol. Soc. Washington, 26, Jan. 18, 1913, pp. 15-19.

CLARK, AUSTIN HOBART. Notes on American species of *Peripatus*, with a list of known forms.

Smithsonian Misc. Coll., 60, No. 17, Jan. 25, 1913, pp. 1-5.

INSECTS.

ALEXANDER, CHARLES P. A revision of the South American dipterous insects of the family Ptychopteridae.

Proc. U. S. Nat. Mus., 44, No. 1963, Feb. 20, 1913, pp. 331-335, figs. 1-3.

Describes 1 new species, of which the type is in the National Museum.

ALEXANDER, CHARLES P. A synopsis of part of the neotropical crane-flies of the subfamily Limnobiinae.

Proc. U. S. Nat. Mus., 44, No. 1966, Apr. 30, 1913, pp. 481-549, pls. 65-68.

Of the new forms described, the types of 30 new species and 1 new

ALEXANDER, CHARLES P.—Continued.

subspecies, and paratypes of 1 new species and 1 new subspecies are in the National Museum.

BARBER, H. S. Note on the Avocado weevil (*Heilipus lauri* Boh.).

Proc. Ent. Soc. Washington, 14, No. 3, Sept. 30, 1912, pp. 181-183, pl. IX.

The specimens studied are in the collections of the National Museum.

——— Eggs of *Cicada lyrice* De Geer.

Proc. Ent. Soc. Washington, 14, No. 4, Jan. 10, 1913, pp. 210, 211, 1 fig.

A description of the eggs and account of the injury made in depositing them.

——— Observations on the life-history of *Micromalthus debilis* LeConte.

Proc. Ent. Soc. Washington, 15, No. 1, Apr. 9, 1913, pp. 31-38, pls. II, III.

——— Luminous *Collembola*.

Proc. Ent. Soc. Washington, 15, No. 1, Apr. 9, 1913, pp. 46-50.

Notes on the luminosity of species, the material on which they were based being deposited in the National Museum.

BRUNER, LAWRENCE. Results of the Yale Peruvian Expedition of 1911. Orthoptera (Acridiidae—short-horned locusts).

Proc. U. S. Nat. Mus., 44, No. 1940, Feb. 11, 1913, pp. 177-187.

Describes 2 new genera, 6 new species, and 1 new variety, all of the type specimens of which are in the National Museum.

——— Results of the Yale Peruvian Expedition of 1911. Orthoptera (Addenda to the Acridiidae—short-horned locusts).

Proc. U. S. Nat. Mus., 45, No. 2001, June 11, 1913, pp. 585, 586.

Describes 1 new species, the type of which is in the National Museum.

BUSCK, AUGUST. New California Microlepidoptera.

Journ. Ent. and Zool., 5, No. 2, June, 1913, pp. 96-102.

Describes 8 new species, the types of which are in the National Museum.

BUSCK, AUGUST. Notes on the genus *Mieza* Walker, with descriptions of three new species from Costa Rica.

Insector Insectiv. Menstruus, 1, No. 6, June 30, 1913, pp. 70-73.

Describes 3 new species, of which the types are in the National Museum.

CAUDELL, A. N. Notes on the mantid genus *Gonastista* Sauss.

Psyche, 19, No. 5, Oct., 1912, pp. 160-162.

Describes 1 new species, the type of which is in the National Museum.

——— A new genus and species of Gryllidae from Texas.

Proc. Ent. Soc. Washington, 14, No. 4, Jan. 10, 1913, pp. 187, 188.

——— Description of two new species of Orthoptera from Peru.

Can. Ent., 45, No. 1, Jan. 22, 1913, pp. 19-21.

——— Results of the Yale Peruvian Expedition of 1911. Orthoptera (exclusive of Acridiidae).

Proc. U. S. Nat. Mus., 44, No. 1954, Feb. 20, 1913, pp. 347-357.

Describes 9 new species, of which the type specimens are in the National Museum.

——— Notes on nearctic orthopterous insects. I. Nonsaltatorial forms.

Proc. U. S. Nat. Mus., 44, No. 1970, Apr. 18, 1913, pp. 595-614, figs. 1-27.

Describes 1 new species, the type of which is in the National Museum, and records tables for species of various genera.

——— A new *Pseudo-phylliid* from Jamaica.

Insector Insectiv. Menstruus, 1, No. 5, May, 1913, pp. 57, 58.

——— and MORGAN HEBARD. Fixation of the single type (lectotypic) specimens of species of American Orthoptera.

Proc. Acad. Nat. Sci. Phila., May, 1913, pp. 157-158.

esting butterflies from eastern Massachusetts.

Proc. U. S. Nat. Mus., 45,
No. 1987, June 13, 1913,
pp. 363, 364, pl. 32.

Notes on specimens in the collection
of the National Museum.

COCKERELL, T. D. A. Names applied to
the eucerine bees of North America.

Proc. U. S. Nat. Mus., 43,
No. 1932, Oct. 19, 1912,
pp. 261-273.

List of the species and types in the
collections of the National Museum.

CRAWFORD, J. C. Descriptions of new
Hymenoptera, No. 5.

Proc. U. S. Nat. Mus., 43,
No. 1927, Sept. 7, 1912,
pp. 163-188, figs. 1, 2.

Records 2 new genera, 3 new species,
and 1 new name for a preoccupied
specific name. The types are in the
National Museum.

Notes on some Canadian bees.

Can. Ent., 44, No. 12, Dec.
31, 1912, pp. 359, 360.

Describes 2 new species, the types
of which are in the National Museum.

On the status of some species of
the genus *Panurginus*.

Can. Ent., 44, No. 12, Dec.
31, 1912, pp. 367, 368.

A comparative description of the
types of three species in the National
Museum.

Notes on some species of the genus
Prosopis.

Can. Ent., 45, No. 5, May 17,
1913, pp. 154-156, figs 3-8.

Description of 1 new species, of
which the type is in the National
Museum, and notes on the synonymy
of 2 other species.

Descriptions of new Hymenop-
tera, No. 6.

Proc. U. S. Nat. Mus., 45,
No. 1979, May 22, 1913,
pp. 241-260.

Seven new genera and 26 new
species are described, the types being
in the National Museum.

Descriptions of new Hymenop-
tera, No. 7.

Proc. U. S. Nat. Mus., 45,
No. 1984, May 22, 1913,
pp. 309-317, 1 fig.

Describes 1 new genus and 14 new
species, the types of which are in the
National Museum.

tuidæ.

Proc. Ent. Soc. Washington,
14, No. 3, Sept. 30, 1912
pp. 167, 168.

Descriptions of 2 new genera and 3
new species, the types of which are in
the National Museum.

More about the sloth moth.

Proc. Ent. Soc. Washington,
14, No. 3, Sept. 30, 1912,
pp. 160-174.

Recognition of *Palindia merricki*
Holland.

Proc. Ent. Soc. Washington,
14, No. 4, Jan. 10, 1913,
p. 194.

A new *Ulophora* from Florida.

Proc. Ent. Soc. Washington,
14, No. 4, Jan. 10, 1913,
p. 218.

Description of 1 new species, the
type of which is in the National
Museum.

Notes on cotton moths.

Insecutor Insectix Men-
struus, 1, No. 1, Jan. 27,
1913, pp. 1-12.

Describes 8 new species, the types
of which are in the National Museum.

Descriptions of new Lepidoptera,
chiefly from Mexico.

Proc. U. S. Nat. Mus., 44,
No. 1961, Feb. 11, 1913,
pp. 279-324.

Describes 6 new genera, 117 new
species, and 1 new subspecies, the
types of which are in the National
Museum.

Descriptions of new species of
saturnian moths in the collection of the
United States National Museum.

Proc. U. S. Nat. Mus., 44,
No. 1947, Feb. 20, 1913,
pp. 121-134.

Contains tables for the species of the
genus *Hylesia* and describes 30 new
species, the types of which are in
the National Museum.

The species of *Sphida Grote*.

Insecutor Insectix Men-
struus, 1, No. 2, Feb. 20,
1913, pp. 18, 19.

Describes 3 new species, the types of
which are in the National Museum.

The larvae of *Xanthopastis timais*
Cramer.

Insecutor Insectix Men-
struus, 1, No. 2, Feb. 20,
1913, pp. 20-22.

Contains description of 1 new species,
the type of which is in the National
Museum.

- Insecutor Inactius Menstruus*, 1, No. 2, Feb. 20, 1913, pp. 22, 23.
Describes 3 new species, the types of which are in the National Museum.
- The species of *Afrida* Möschler.
Insecutor Inactius Menstruus, 1, No. 3, March 29, 1913, pp. 28-33.
Descriptions of 12 new species, the types of which are in the National Museum.
- Five new North American Pyralidae.
Insecutor Inactius Menstruus, 1, No. 3, March 29, 1913, pp. 34, 35.
- The American species of *Dysodia*.
Insecutor Inactius Menstruus, 1, No. 4, Apr. 30, 1913, pp. 37-45.
Descriptions of 12 new species, the types of which are in the National Museum.
- The larva of *Trichostibas parvula*.
Insecutor Inactius Menstruus, 1, No. 4, Apr. 30, 1913, pp. 48, 49.
- Another larva of *Xanthopastis timais*.
Insecutor Inactius Menstruus, 1, No. 4, Apr. 30, 1913, pp. 49, 50.
- The larva of *Delias henningia* Eschscholtz.
Insecutor Inactius Menstruus, 1, No. 5, May 31, 1913, p. 58.
- A Galleriine feeding in cacao pods.
Insecutor Inactius Menstruus, 1, No. 5, May 31, 1913, p. 59.
One genus and 1 new species are described. The types are in the National Museum.
- Note on the systematic position of *Pseudacontia rhizoleuca* Brabant.
Insecutor Inactius Menstruus, 1, No. 5, May 31, 1913, pp. 59, 60.
One new genus is described, the type of which is in the National Museum.
- A note on *Talara ruficollis* Schaus.
Insecutor Inactius Menstruus, 1, No. 6, June 30, 1913, p. 75.
Two new genera and 1 new species are described. The types are in the National Museum.
- and F. KNAB. Three new neotropical mosquitoes.
Insecutor Inactius Menstruus, 1, No. 6, June 30, 1913, pp. 76-78.
- FORBES, WM. T. M. *Trichoclea ruisa* new species: a structurally aberrant noctuid.
Insecutor Inactius Menstruus, 1, No. 6, June 30, 1913, pp. 74, 75.
The type of the new species described is in the National Museum.
- GAHAN, A. B. New Ichneumonidae parasitic on leaf-mining Diptera.
Can. Ent., 45, No. 5, May 17, 1913, pp. 145-154.
Seven new species are described. The types are in the National Museum.
- A new genus and one new species of Chalcidoidea.
Can. Ent., 45, No. 6, June 7, 1913, pp. 178-182.
- GIRAULT, A. ARSÈNE. A systematic monograph of the chalcidoid Hymenoptera of the subfamily Signiphorinae.
Proc. U. S. Nat. Mus., 45, No. 1977, May 22, 1913, pp. 189-233.
The types of 11 of the new species described are in the National Museum.
- HEBARD, MORGAN. (See under A. N. Caudell.)
- HEIDEMANN, OTTO. Description of two new species of North American Tingitidae.
Proc. Ent. Soc. Washington, 15, No. 1, April 9, 1913, pp. 1-4, figs. 1, 2.
- The sugar-cane Tingid from Mexico.
Journ. of Economic Ent., 6, No. 2, April, 1913, pp. 249-251, 1 fig.
- HOWARD, L. O., H. G. DYAR and F. KNAB. The Mosquitoes of North and Central America and the West Indies.
Carnegie Inst. of Washington, Pub. No. 159, Jan. 21, 1913. Vol. I, pp. 1-520, pls. I-XIV; Vol. II, pls. I-CL.
A general consideration of mosquitoes, their habits, and their relations to the human species.

KNAB, FREDERICK. *Drosophila repleta* Wollaston.

Psyche, 19, No. 3, June, 1912, pp. 106-108.

Contains notes on specimens in the collection of the National Museum.

——— **Diptera at home on spiders' webs.**

Journ. N. Y. Ent. Soc., 20, No. 3, Sept., 1912, pp. 143-146.

Contains remarks on species, based partly on material in the National Museum.

——— **Some neotropical Syrphidæ.**

Insector Insectis Mensurus, 1, No. 2, Feb. 20, 1913, pp. 13-15.

One new genus and 2 species are described. The types are in the National Museum.

——— **Names and synonymy in Anophelæ.**

Insector Insectis Mensurus, 1, No. 2, Feb. 20, 1913, pp. 15-17.

——— **A new bromelicolous Megarhinus.**

Insector Insectis Mensurus, 1, No. 3, March 20, 1913, pp. 35, 36.

Contains description of 1 new species, of which the type is in the National Museum.

——— **Changes in the mosquito fauna of Panama.**

Proc. Ent. Soc. Washington, 15, No. 1, Apr. 9, 1913, pp. 40-42.

The material on which these notes are based is in the National Museum.

——— **A new bot-fly from reindeer.**

Proc. Biol. Soc. Washington, 26, June 30, 1913, pp. 155, 156.

——— (See also under Harrison G. Dyar, L. O. Howard and J. R. Malloch.)

——— **and R. A. COOLEY. *Symphoromyia* as a blood-sucker.**

Proc. Ent. Soc. Washington, 14, No. 3, Sept. 30, 1912, pp. 161, 162.

——— **and J. R. MALLOCH. New Australian Diptera from ants' nests.**

Trans. Royal Soc. of South Australia, 36, 1912, pp. 233-237.

Contains descriptions of 3 new species of which the types are in the National Museum.

KNAB, FREDERICK and J. R. MALLOCH. A Borborid from an epiphytic Bromeliad (Diptera; family Borboridæ.)

Ent. News, 23, No. 9, Nov., 1912, pp. 413-415, 1 fig.

Description of 1 new species, of which the type is in the National Museum.

MALLOCH, J. R. New Diptera from Panama.

Smithsonian Misc. Coll., 59, No. 17, July 18, 1912, pp. 1-8.

Five new species are described and new specific names are proposed for two preoccupied names. The types of the new species are in the National Museum.

——— **Three new species of Pipunculidæ (Diptera) from Panama.**

Smithsonian Misc. Coll., 60, No. 1, Sept. 6, 1912, pp. 1-4, 3 figs.

——— **New American dipterous insects of the family Pipunculidæ.**

Proc. U. S. Nat. Mus., 43, No. 1234, Oct. 19, 1912, pp. 291-299, 1 fig.

Describes 9 new species, the types of which are in the National Museum.

——— **Certain generic names in Phoridae (Dipt.).**

Ent. News, 22, No. 8, Oct., 1912, pp. 356-358.

Contains remarks on the generic names with references to the work on this family issued by the National Museum.

——— **The insects of the dipterous family Phoridae in the United States National Museum.**

Proc. U. S. Nat. Mus., 43, No. 1238, Dec. 14, 1912, pp. 411-529, pls. 35-41.

Two new genera, 88 new species and 2 new varieties are described, and 2 new names are proposed for preoccupied generic names. The types are in the National Museum.

——— **One new genus and eight new species of dipterous insects in the United States National Museum collection.**

Proc. U. S. Nat. Mus., 43, No. 1246, Dec. 31, 1912, pp. 646-658, pl. 46.

——— **Descriptions of new species of American flies of the family Borboridæ.**

Proc. U. S. Nat. Mus., 44, No. 1256, Feb. 20, 1913, pp. 361-372.

Ten new species are described. The types are in the National Museum.

tera in the United States National Museum collection.

Proc. U. S. Nat. Mus., 44,
No. 1962, Feb. 20, 1913,
pp. 461-463.

- A new genus and two new species of Chloropidae (Diptera).

*Insector Insectiv. Mens-
struus*, 1, No. 4, Apr. 30,
1913, pp. 46-48.

- Notes on some American Diptera of the genus *Fannia*, with descriptions of new species.

Proc. U. S. Nat. Mus., 44,
No. 1972, Apr. 30, 1913,
pp. 621-631, pl. 77.

Five new species are described. The types are in the National Museum.

- Four new species of North American Chloropidae.

*Insector Insectiv. Mens-
struus*, 1, No. 5, May 31,
1913, pp. 60-64.

- Three new species of Anthomyiidae (Diptera) in the United States National Museum collection.

Proc. U. S. Nat. Mus., 45,
No. 2004, June 11, 1913,
pp. 603-607.

- The genus *Parodinia* Coquillett (Geomyzidae, Dipt.).

Ent. News, 24, No. 6, June,
1913, pp. 274-276.

One new species is described. The type is in the National Museum.

- A new genus and three new species of Phoridae from North America, with notes on two recently erected genera (*Crepidopachys* and *Pronomiophora* Enderlein).

Psyche, 20, No. 1, 1913, pp.
23-26, 1 fig.

- (See also under F. Knab.)

- and F. KNAB. *Limosina mirabilis* Collin, a species of Borboridae new to the United States.

Psyche, 19, No. 6, Jan., 1913,
p. 199, 1 fig.

- PIERCE, W. DWIGHT. Miscellaneous contributions to the knowledge of the weevils of the families Attelabidae and Brachyrhinidae.

Proc. U. S. Nat. Mus., 45,
No. 1988, May 23, 1913,
pp. 365-426.

Four new genera, 2 new subgenera, 24 new species and 9 new varieties are described. The types are in the National Museum.

Orthoptera of the families Mantidae and Phasmidae in the United States National Museum, with descriptions of new species.

Proc. U. S. Nat. Mus., 42,
No. 1910, Aug. 29, 1912,
pp. 451-478, figs. 1-17.

Ten new species are described and 1 new specific name is proposed for a misidentified species.

- ROHWER, S. A. The sawflies (Chalastogastra) of Boulder County, Colorado.

Univ. of Colorado Studies,
9, No. 2-3, May, 1912, pp.
91-104.

- A new species of Eucerceris.

*Bull. Amer. Mus. Nat.
Hist.*, 31, Art. 24, Sept. 13,
1912, pp. 323-326. (In an
article by John A. Gross-
beck.)

- Some Canadian sawflies collected by Frederick Knab.

Can. Ent., 44, No. 9, Sept.
18, 1912, p. 276.

The specimens on which this paper is based are in the National Museum.

- Studies in the woodwasp superfamily Oryssoides, with descriptions of new species.

Proc. U. S. Nat. Mus., 43,
No. 1926, Sept. 27, 1912,
pp. 141-158, pls. 32, 33,
figs. 1-6.

In this review, 5 new species, of which the types are in the National Museum, are described, and a table of the species of the genus *Oryssus* is given.

- Notes on sawflies, with descriptions of new species.

Proc. U. S. Nat. Mus., 43,
No. 1930, Sept. 30, 1912,
pp. 205-261, figs. 1-6.

Eight new genera, 2 new subgenera, 60 new species, 1 subspecies and 1 new variety are described, and a new name is given for a preoccupied specific name. The types are in the National Museum.

- Chalcids injurious to forest-tree seeds.

*U. S. Dept. Agr., Bur. Ent.,
Tech. Ser. No. 20*, pt. VI,
Feb. 10, 1913, pp. 157-163.

The material on which this paper is based is in the National Museum.

ROHWER, S. A. Results of the Yale Peruvian Expedition of 1911. Hymenoptera, superfamilies Vespoidea and Sphecoidea.

Proc. U. S. Nat. Mus., 44, No. 1960, Feb. 20, 1913, pp. 430-454, 1 fig.

Fourteen new species are described. The types are in the National Museum.

— A synopsis, and descriptions of the nearctic species of sawflies of the genus *Xyela*, with descriptions of other new species of sawflies.

Proc. U. S. Nat. Mus., 45, No. 1961, May 22, 1913, pp. 265-281, 1 fig.

One new genus and 21 new species are described. The types are in the National Museum.

— New parasitic Hymenoptera belonging to the tribe Xoridini.

Proc. U. S. Nat. Mus., 45, No. 1966, May 22, 1913, pp. 353-361.

Eleven new species are described. The types are in the National Museum.

— Descriptions of thirteen new species of parasitic Hymenoptera and a table to certain species of the genus *Ecphyllus*.

Proc. U. S. Nat. Mus., 45, No. 1991, June 4, 1913, pp. 533-540.

TOWNSEND, CHARLES H. T. Descriptions of new genera and species of muscoid flies from the Andean and Pacific Coast regions of South America.

Proc. U. S. Nat. Mus., 43, No. 1935, Nov. 22, 1912, pp. 301-367.

Thirty-seven genera and 72 new species are described. The types are in the National Museum.

VIERCK, H. L. Contributions to our knowledge of bees and ichneumon-flies, including the descriptions of twenty-one new genera and fifty-seven new species of ichneumon-flies.

Proc. U. S. Nat. Mus., 42, No. 1920, Aug. 29, 1912, pp. 613-648, figs. 1, 2.

— Descriptions of one new family, eight new genera, and thirty-three new species of ichneumon-flies.

Proc. U. S. Nat. Mus., 43, No. 1942, Dec. 31, 1912, pp. 575-593.

— Results of the Yale Peruvian Expedition of 1911. Hymenoptera—Ichneumonoides.

Proc. U. S. Nat. Mus., 44, No. 1964, Feb. 20, 1913, pp. 469, 470.

Three new species are described. The types are in the National Museum.

— Descriptions of ten new genera and twenty-three new species of ichneumon-flies.

Proc. U. S. Nat. Mus., 44, No. 1968, Apr. 18, 1913, pp. 555-568.

— Descriptions of six new genera and twelve new species of ichneumon-flies.

Proc. U. S. Nat. Mus., 44, No. 1974, Apr. 18, 1913, pp. 639-648.

WILSON, CHARLES BRANCH. Dragon flies of the Cumberland Valley in Kentucky and Tennessee.

Proc. U. S. Nat. Mus., 43, No. 1928, Sept. 7, 1912, pp. 189-200.

List of species obtained during a trip in 1911, with notes on their observed range and habits.

CRUSTACEANS.

DOOLITTLE, ALFRED A. Notes on the occurrence of the crustacean *Alonopsis* in America, with description of a new species.

Proc. U. S. Nat. Mus., 43, No. 1940, Dec. 31, 1912, pp. 561-563, pls. 42, 43.

Notes the occurrence of 3 species of the entomostracan genus *Alonopsis* in the stomachs of bass and trout in Sebago Lake, Maine, and Sunapee Lake, New Hampshire. One of the species, *A. curvata*, is described as new.

FAXON, WALTER. (See under Mary J. Rathbun.)

HANSEN, H. J. Reports on the scientific results of the expedition to the tropical Pacific, in charge of Alexander Agassiz, by the U. S. Fish Commission steamer "Albatross," from August, 1899, to March, 1900, Commander Jefferson F. Moser, U. S. N., commanding. XVI.

Reports on the scientific results of the expedition to the eastern tropical Pa-

the U. S. Fish Commission steamer "Albatross," from October, 1904, to March, 1905, Lieut. Commander L. M. Garrett, U. S. N., commanding. XXVII.

The Schizopoda.

Memoirs Mus. Comp. Zool.,
35, No. 4, July, 1912, pp.
173-296, pls. 1-12.

Deals with 63 species of Mysidacea and Euphausiacea. Of the Mysidacea, 2 new genera, *Cryptomysis* and *Dozomysis*, are described, and 8 new species, *C. lamellicauda*, *D. pelagica*, *Boreomysis media*, *B. fragilis*, *Hemistriella abbreviata*, *Anchialina obtusifrons*, *Gastrosaccus pacificus* and *Euchastomera plebeja*. The little known *Chalaraspis alata*, the type of which was lost, is redescribed. Of the Euphausiacea, 6 species were found for the first time, but preliminary descriptions appeared in the Bulletin de l'Institut Océanographique, No. 210, May 20, 1911.

MARSH, C. DWIGHT. Report on fresh-water Copepoda from Panama, with descriptions of new species.

Smithsonian Misc. Colls., 61,
No. 3, June 20, 1913,
pp. 1-30, pls. 1-5.

Gives a general survey of the plankton collections of the Smithsonian biological survey of the Panama Canal Zone. Notes the occurrence of diatoms, filamentous algae, desmids, protozoans, rotifers, cladocerans and ostracods in addition to the copepods. Fifteen species of the latter are described, of which 7 are new. Gives general observations on the distribution of the Panamanian copepods and closes with a bibliography of the papers quoted in the report.

PEARSE, ARTHUR S. Notes on certain amphipods from the Gulf of Mexico, with descriptions of new genera and new species.

Proc. U. S. Nat. Mus., 43,
No. 1936, Nov. 20, 1912,
pp. 369-379, figs. 1-8.

Twenty-eight species are enumerated of which 3 are new: *Lembopis spinicarpus*, type of a new genus of the family Aoridae, *Chevalia mexicana*, and *Unciola lemniscata*.

Notes on a small collection of amphipods from the Pribilof Islands, with descriptions of new species.

Proc. U. S. Nat. Mus., 45,
No. 1938, June 4, 1913,
pp. 571-573, figs. 1, 2.

lected on St. Paul Island by Mr. M. C. Marsh and Mr. W. L. Hahn of the U. S. Bureau of Fisheries. Two of the species, *Gammarus pribilofensis* and *Chironestinus multarticulatus*, are described as new.

RATHBUN, MARY J. Some Cuban Crustacea. With notes on the Astacidae, by Walter Faxon, and a list of Isopoda, by Harriet Richardson.

Bull. Mus. Comp. Zool.,
54, No. 15, Oct., 1912, pp.
451-460, pls. 1-5.

Description of a collection obtained by Dr. Thomas Barbour, and of some additional specimens from Dr. Carlos de la Torre. Two new species of shrimps are included, *Palaeomonetes calceis* and *Barbouria poeyi*, the latter the type of a new genus; also a new subspecies of crayfish, *Cambarus cubensis rivalis* Faxon.

Descriptions of new species of crabs of the family Ocypodidae.

Proc. U. S. Nat. Mus., 44,
No. 1971, Apr. 30, 1913,
pp. 615-620, pls. 74-76.

All are Indo-Pacific species; 3 are fiddler-crabs, *Uca zambouangana* and *U. mearnsi*, both from the Philippines, and *U. novoguineae*; while the fourth is a *Macrophthalmus*, *M. crinitus*, from the Moluccas.

RICHARDSON, HARRIET. Description of a new terrestrial isopod belonging to the genus *Cubaris* from Panama.

Proc. U. S. Nat. Mus., 42,
No. 1911, Aug. 29, 1912,
pp. 477-479, figs. 1, 2.

Cubaris longispinus, based on specimens collected at Porto Bello, Panama, by Mr. E. A. Schwarz.

Descriptions of two new parasitic isopods belonging to the genera *Palaeogyge* and *Probopyrus* from Panama.

Proc. U. S. Nat. Mus., 42,
No. 1914, Aug. 29, 1912,
pp. 521-524, figs. 1-8.

Based on material collected by Dr. S. E. Meek and Mr. S. F. Hildebrand during a biological survey of the Isthmus of Panama under the auspices of the Smithsonian Institution. The species were parasitic on various species of shrimps of the genus *Macrobrachium*.

Description of a new species of isopod belonging to the genus *Apseudes* from Ecuador.

Proc. U. S. Nat. Mus., 42,
No. 1918, Aug. 29, 1912,
pp. 582-585, 1 fig.

RICHARDSON, HARRIET—Continued.

Apeudes meridionalis, collected by the U. S. Bureau of Fisheries steamer "Albatross," off Cape San Lorenzo, Ecuador, in 401 fathoms. The description is followed by a list of the species of *Apeudes* with references to the publications where they are described.

— Descriptions of two new isopods, an *Apeudes* and a *Munnopsis*, both from the Galapagos Islands.

Proc. U. S. Nat. Mus., 43, No. 1926, Sept. 7, 1912, pp. 159-162, figs. 1-4.

Apeudes galapagensis and *Munnopsis longiremis* are described from a depth of 812 fathoms, off Chatham Island, at station 2807 of the U. S. Fisheries steamer "Albatross."

— Descriptions of a new genus of isopod crustaceans, and of two new species from South America.

Proc. U. S. Nat. Mus., 43, No. 1929, Sept. 27, 1912, pp. 201-204, figs. 1, 2.

Describes a new genus, *Excirolana*, of which the type is *Excirolana* (= *Cirolana*) *orientalis* (Dana), and 2 new species, *E. chilensis* and *E. bradleyensis*.

— Note on an isopod name.

Proc. Biol. Soc. Washington, 26, Dec. 24, 1912, p. 188.

Changes the name of *Livoneca longistylis* Richardson, 1912, not Dana, 1853, to *L. tenuistylis*.

— Terrestrial isopods collected in Costa Rica by Mr. Picado, with the description of a new genus and species.

Proc. U. S. Nat. Mus., 44, No. 1954, Feb. 20, 1913, pp. 337-340, figs. 1-5.

A new genus and species, *Pentonicus* and *P. pruinosus*, are described, and 2 other species noted.

RICHARDSON, HARRIET. The isopod genus *Ichthyoxenus* Herklots, with description of a new species from Japan.

Proc. U. S. Nat. Mus., 45, No. 1995, June 4, 1913, pp. 559-562, figs. 1-6.

Reviews the history of the genus *Ichthyoxenus*, describes a new species, *I. japonensis*, and records the occurrence of *I. jellinghausii* at Buitensorg.

— (See also under Mary J. Rathbun.)

WILSON, CHARLES BRANCH. Parasitic copepods from Nanaimo, British Columbia, including eight species new to science.

Contr. to Canadian Biology, 1906-1910, Ottawa (1912), pp. 85-101, pls. 3-9.

An account of specimens collected at the Pacific coast Biological Station of the Department of Marine and Fisheries of Canada. A set of specimens including the types of the new species have been given to the U. S. National Museum. The new species are *Argulus borealis*, *Lepophtheirus praticipes*, *L. nanaimoensis*, *Chondracanthus palpifer*, *C. pinguis*, *Clavella parva*, *C. robusta*, and *Brachiella dentata*. The little known species, *Argulus pugettensis* Dana, is also fully described.

— Crustacean parasites of West Indian fishes and land crabs, with descriptions of new genera and species.

Proc. U. S. Nat. Mus., 44, No. 1950, Apr. 3, 1913, pp. 189-277, pls. 13-53.

Gives a general account of the parasites found on fishes, crustaceans, and ascidians, obtained during three months' stay at the biological laboratory of Johns Hopkins University at Montego Bay, Jamaica. Descriptions and drawings of the parasitic copepods and ostracods were made from living specimens. Fifty-two species of copepods, of which 31 are new to science, and 1 species of ostracod are described.

WORMS.

ELLIS, MAX M. A new discodrilid worm from Colorado.

Proc. U. S. Nat. Mus., 42, No. 1912, Aug. 29, 1912, pp. 481-486, figs. 1-5.

Describes a new genus and species of discodrilid, *Cumbarincola macrodonta*, living on a crayfish, *Cambarus digenea*; also gives a key to the Discodrilidae of the United States east of the Rocky Mountains.

GEROULD, JOHN HIRAM. The sipunculids of the eastern coast of North America.

Proc. U. S. Nat. Mus., 44, No. 1959, Apr. 12, 1913, pp. 373-437, pls. 58-62, figs. 1-16.

Based on material collected chiefly by the U. S. Fish Commission, now the Bureau of Fisheries, during 40 years. Discusses 7 genera, 23 species

HARRING, HARRY K. Synopsis of the Rotatoria.

Bull. U. S. Nat. Mus., 81,
June 28, 1913, pp. 1-226.

ECHINODERMS.

CLARK, AUSTIN HOBART. Preliminary descriptions of eleven new crinoids belonging to the families Himerometridæ, Mariametridæ and Colobometridæ, discovered by the "Siboga" in the Dutch East Indies.

Ann. Mag. Nat. Hist., 8th series, 10, No. 55, July, 1912, pp. 31-41.

The new species described form part of the "Siboga" collection. A set of duplicates will be deposited in the National Museum.

— The homologies of the so-called anal, and other plates in the pentacrinoid larvæ of the free crinoids.

Journ. Washington Acad. Sci., 2, No. 13, July 19, 1912, pp. 309-314.

— The crinoids of the Natural History Museum at Hamburg.

Smithsonian Misc. Coll., 60, No. 10, Nov. 7, 1912, pp. 1-33.

The collection of the Hamburg Museum was examined partly in Hamburg and partly in Washington. Photographs were made of all the types and other specimens of more than usual interest for the files of the National Museum.

— The crinoids of the Museum fuer Naturkunde, Berlin.

Proc. U. S. Nat. Mus., 43, No. 1937, Nov. 20, 1912, pp. 381-410.

This is a detailed account of the crinoids contained in the Berlin Museum, including a redescription of the types of Müller, Carpenter and Hartlaub. A set of duplicates is in the National Museum.

— The crinoids of the Indian Ocean.

Echinodermata of the Indian Museum, pt. 7, Crinoides, 1912, pp. 1-iii, 1-325, 61 text figures.

This is a comprehensive monograph of the crinoids of the Indo-Pacific

Rotatoria, prefaced by a table showing the classification into orders, families and genera, and followed by a full bibliography in which is indicated the library where each work was consulted.

CLARK, AUSTIN HOBART—Continued.

region, including a historical introduction, keys to all the genera and higher groups, and a bibliography. A set of duplicates from the collections upon which it is based is in the National Museum.

— On a collection of recent crinoids from the waters about Ireland.

Dept. Agr. and Tech. Instr. for Ireland, Fisheries Branch, Sci. Investigations, 1912, No. 4, pp. 1-5.

This is a description of a collection of crinoids made by the Irish Fishery Cruiser "Halga" off the west coast of Ireland. A set of duplicates, including the types of the new species, will be deposited in the National Museum.

FISHER, WALTER K. Four new genera and fifty-eight new species of starfishes from the Philippine Islands, Celebes, and the Moluccas. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 23.]

Proc. U. S. Nat. Mus., 43, No. 1944, Feb. 5, 1913, pp. 599-648.

Contains preliminary descriptions of 4 new genera and 58 new species belonging to 4 families, the Porcellanasteridæ, Gonioplectinidæ, Astropectinidæ and Goniasteridæ. The new genera are *Ctenoplectra*, *Astromesites*, *Perissogonaster*, and *Astrotheuma*.

KOEHLER, R. Ophiures.

Zool. Jahrbücher, Suppl., 11, (—Ergebnisse einer zoologischen Forschungsreise nach Westindien von Prof. W. Kükenthal und Dr. R. Hartmeyer im Jahr 1907.) Heft 3, 1913, pp. 351-380, pls. 20, 21.

In describing a new species of *Amphitura* collected by Kükenthal and Hartmeyer, the author refers to,

KOEHLER, R.—Continued.

and for comparison briefly describes, a new species, *A. fubulata*, from the collection of the U. S. Fisheries steamer "Albatross." This species is to be described in full later.

MITSUKURI, K. Studies on actinopodous Holothurioides.

Journ. College of Science, Imp. Univ. Tokyo, 29, Art. 2, July 10, 1912, pp. 1-284, pls. 1-8.

While this is mainly a study of Japanese forms collected by Japanese,

MITSUKURI, K.—Continued.

there are included those actinopodous holothurians obtained by the U. S. Fisheries steamer "Albatross" on its cruise to the South Pacific in 1898-1900 under the direction of Dr. Alexander Agassiz. There are eight species in this collection. There is also included a new species, *Akyroderma diomedie*, founded on a single individual taken by the "Albatross" in 1906 in Japanese waters. These specimens will come to the National Museum.

BRYOZOANS.

OSBURN, RAYMOND C. Bryozoa from Labrador, Newfoundland, and Nova Scotia, collected by Dr. Owen Bryant.

Proc. U. S. Nat. Mus., 43, No. 1933, Nov. 20, 1912, pp. 275-289, pl. 34.

An account of the bryozoans dredged by Dr. Owen Bryant during

OSBURN, RAYMOND C.—Continued.

a cruise made between latitude 58° on the coast of Labrador to latitude 43° off Cape Sable, Nova Scotia, in depths of 5 to 110 fathoms. Fifty-two species belonging to 26 genera are enumerated.

COELENTERATES.

BIGELOW, HENRY B. Preliminary account of one new genus and three new species of Medusae from the Philippines. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 22.]

Proc. U. S. Nat. Mus., 43, No. 1931, Nov. 20, 1912, pp. 283-290.

The new genus described is *Neurechus*. The new species are *N. haku*, *Protiera tropica*, and *Zygocanna vana*.

— Medusae and Siphonophorae collected by the U. S. Fisheries steamer "Albatross" in the northwestern Pacific, 1906.

Proc. U. S. Nat. Mus., 44, No. 1946, Mar. 26, 1913, pp. 1-119, pls. 1-6, figs. 1, 2.

Describes 58 species of Medusae and 22 of Siphonophorae, of which 5 species and 1 variety of Medusae are new. Among the rare forms is *Clausophyes galatea*, which is described in detail; while the range of *Diphyes truncata* is greatly extended.

FRASER, C. McLEAN. Some hydroids of Beaufort, North Carolina.

Bull. Bur. Fisheries, 30, 1910, No. 762, July 23, 1912, pp. 330-387, figs. 1-62.

FRASER, C. McLEAN—Continued.

Treats of 51 species, giving keys to the families, genera and species, and describing and figuring each species. A new family (Hebellidae), a new genus (*Scandis*) and a new species (*Hydractinia carolina*) are described. The first set of the material will come to the National Museum.

McMURRICH, J. PLAYFAIR. Description of a new species of actinian of the genus *Edwardsiella* from southern California.

Proc. U. S. Nat. Mus., 44, No. 1967, Apr. 18, 1912, pp. 551-553, 1 fig.

Describes the new species, *Edwardsiella californica*, collected at Anaheim Bay, and given to the National Museum by the University of Southern California.

NUTTING, CHARLES C. Descriptions of the Alcyonaria collected by the U. S. Fisheries steamer "Albatross," mainly in Japanese waters, during 1906.

Proc. U. S. Nat. Mus., 43, No. 1923, Nov. 23, 1912, pp. 1-104, pls. 1-21.

The collection contains representatives of 19 families, 54 genera, and 102 species, of which 2 genera, *Helicopodium* and *Primnodendron*, and 40 species are described as new.

CUSHMAN, JOSEPH A. New Textulariidae and other arenaceous Foraminifera from the Philippine Islands and contiguous waters. [Scientific results of the Philippine cruise of the Fisheries steamer "Albatross," 1907-1910.—No. 25.]

CUSHMAN, JOSEPH A.—Continued.

Proc. U. S. Nat. Mus., 44,
No. 1973, Apr. 30, 1913,
pp. 633-638, pls. 78-80.

Describes 13 species of Foraminifera of the family Textulariidae with three exceptions belonging to the Astrorhizidae and Lituolidae.

BOTANY.

BRITTON, N. L., and J. N. ROSE. Studies in Cactaceae — 1.

Contr. U. S. Nat. Herb.,
16, pt. 7, Apr. 10, 1913,
pp. 239-242, pls. 66-73.

——— The genus *Epiphyllum* and its allies.

Contr. U. S. Nat. Herb.,
16, pt. 9, June 6, 1913, pp.
255-262, pls. 78-84.

COOK, O. F. Ivory palms in Panama.

Journ. Washington Acad.
Sci., 3, No. 5, Mar. 4, 1913,
pp. 138-143.

Includes descriptions of 5 new species of *Phytelephas* from Panama.

——— A new generic name for the sapote.

Journ. Washington Acad.
Sci., 3, No. 6, Mar. 19,
1913, pp. 158-160.

The new generic name *Acradelpha*, with *Acradelpha memmosa* (L.) Cook as its type, is proposed for the tropical American fruit described by Linnaeus as *Achras memmosa*.

——— Relationships of the false date palm of the Florida Keys, with a synoptical key to the families of American palms.

Contr. U. S. Nat. Herb.,
16, pt. 8, May 14, 1913,
pp. 243-264, pls. 74-77.

The author discusses the affinities of *Pseudophoenix sargentii* and establishes the new families Pseudophoeniceae, Geonomaceae, Malortieaceae, Chamaedoraceae, Iriarteaceae, Synchanthaceae, and Acristaceae.

——— and C. B. DOYLE. Three new genera of stilt palms (Iriarteaceae) from Colombia, with a synoptical review of the family.

Contr. U. S. Nat. Herb.,
16, pt. 6, Feb. 21, 1913,
pp. 225-238, pls. 54-65,
1 fig.

Includes descriptions of the new genera *Acostigma*, *Cutostigma*, and *Wattimella*, and of the new species *A. eguale*, *C. radiatum*, and *W. guineensis*.

DOYLE, C. B. (See under O. F. Cook.)

GREENE, EDWARD L. Certain asclepiads.

Leaflets, 2, Oct. 22, 1912,
pp. 229-233.

——— Some new lupines.

Leaflets, 2, Oct. 22, 1912,
pp. 233-236.

——— New species of *Cicuta*.

Leaflets, 2, Oct. 22, 1912,
pp. 236-241.

——— Earlier history of our dogbanes, — I.

Leaflets, 2, Oct. 22, 1912,
pp. 241-248.

——— Some Californian maples.

Leaflets, 2, Oct. 22, 1912,
pp. 248-254.

——— Certain western roses.

Leaflets, 2, Oct. 22, 1912,
pp. 254-260.

——— [Certain western roses; continued.]

Leaflets, 2, Nov. 3, 1912,
pp. 261-266.

——— Three new *Rhamni*.

Leaflets, 2, Nov. 6, 1912,
pp. 266-267.

——— A handful of vetches.

Leaflets, 2, Nov. 6, 1912,
pp. 267-270.

Description of 5 new species of *Vicia* from the western United States.

——— Miscellaneous specific types, — VI.

Leaflets, 2, Nov. 6, 1912, pp.
270-272.

Includes descriptions of new species of *Talinum*, *Claytonia*, *Tridophyllum*, and *Sisyrinchium*.

——— Western meadow rues, — I.

Amer. Midland Naturalist,
2, Nos. 11, 12, Oct., 1912,
pp. 290-293.

Includes descriptions of 7 new species of *Thalictrum*.

HASSE, HERMANN EDWARD. The lichen flora of southern California.

Contr. U. S. Nat. Herb., 17, pt. 1, June 9, 1913, pp. 1-132.

Includes descriptions of several new species of lichens from California.

HITCHCOCK, A. S. Gramineae.

In Urban, "*Symbols antillanae*," 7, fasc. 2, 1912, pp. 166-168.

Includes descriptions of the following new species from the West Indies: *Paspalum breve* Chase, *Chloris leptantha* Hitchc., *Chloris Suringari* Hitchc., and *Eragrostis Urbaniana* Hitchc.

— A new species of *Andropogon*.

Botan. Gaz., 54, No. 5, Nov., 1912, p. 424.

Describes *Andropogon Urbanianus* Hitchc., new species, Santo Domingo.

LEWTON, FREDERICK L. Rubelzul cotton: A new species of *Gossypium* from Guatemala.

Smithsonian Misc. Colls., 60, No. 4, Oct. 21, 1912, pp. 1, 2, pls. 1, 2.

— *Kokia*: A new genus of Hawaiian trees.

Smithsonian Misc. Colls., 60, No. 5, Oct. 22, 1912, pp. 1-4, pls. 1-5.

— The cotton of the Hopi Indians: A new species of *Gossypium*.

Smithsonian Misc. Colls., 60, No. 6, Oct. 23, 1912, pp. 1-10, pls. 1-5.

MAXON, WILLIAM R. The tree ferns of North America.

Rep. Smithsonian Inst., 1911, No. 2120, Dec. 11, 1912, pp. 463-491, pls. 1-15.

— A new genus of davallioid ferns.

Journ. Washington Acad. Sci., 3, No. 5, Mar. 4, 1913, pp. 143, 144.

Describes the new genus *Sphenomeria*, allied to *Odontomeria*.

— Pteridophyta [of the southeastern United States.]

In Small, "*Flora Southeast. United States*," ed. 2, Apr. 23, 1913, pp. 1-31.

MAXON, WILLIAM R. *Saffordia*, a new genus of ferns from Peru.

Smithsonian Misc. Colls., 61, No. 4, May 26, 1913, pp. 1-5, pls. 1, 2, 1 fig.

Describes *Saffordia induta*, a new genus and species intermediate between *Doryopteris* and *Trachypteris*.

— Pteridophyta [except Equisetaceae and Isotaceae] of the Northern United States, Canada and the British Possessions.

In Britton & Brown, "*Illustrated Flora of the Northern United States, Canada and the British Possessions*," ed. 2, June 7, 1913, pp. 1-54.

— Studies of tropical American ferns—No. 4.

Contr. U. S. Nat. Herb., 17, pt. 2, June 30, 1912, pp. 133-179, pls. 1-10, figs. 1-7.

MILLER, G. S., jr., and PAUL C. STANDLEY. The North American species of *Nymphaea*.

Contr. U. S. Nat. Herb., 16, pt. 3, July 6, 1912, pp. 63-108, pls. 35-47, figs. 2-40.

Describes *Nymphaea bombycina*, *N. chartacea*, *N. ludoviciana*, *N. microcarpa*, *N. ovata*, *N. oarkana*, *N. puberula*, *N. ulvacea*, new species, and *N. advena erythraea*, new subspecies.

PIPER, CHARLES V. Supplementary notes on American species of *Festuca*.

Contr. U. S. Nat. Herb., 16, pt. 5, Feb. 11, 1913, pp. 197-199.

— *Delphinium simplex* and its immediate allies.

Contr. U. S. Nat. Herb., 16, pt. 5, Feb. 11, 1913, pp. 201-203.

— The identity of *Heuchera cylindrica*.

Contr. U. S. Nat. Herb., 16, pt. 5, Feb. 11, 1913, pp. 205, 206.

— New or noteworthy species of Pacific coast plants.

Contr. U. S. Nat. Herb., 16, pt. 5, pp. 207-210.

ROSE, J. N. (See under N. L. Britton.)

THE AMERICAN SPECIES OF *NEPHROMIA* OF
the section *Nephromeria*.

Contr. U. S. Nat. Herb., 16,
pt. 5, Feb. 11, 1913, pp.
211-216, pl. 51.

SAFFORD, W. E. *Papualthia Mariannæ*, a
new species of *Annonaceæ* from the
island of Guam.

*Journ. Washington Acad.
Sci.*, 2, No. 19, Nov. 19,
1912, pp. 459-463, figs. 1, 2.

— *Pseudannona*, a new genus of
Annonaceæ from the Mascarene Islands;
together with notes on *Artabotrys uncinatus*
and its synonymy.

*Journ. Washington Acad.
Sci.*, 3, No. 1, Jan. 4, 1913,
pp. 16-19.

— *Raimondia*, a new genus of *Annonaceæ*
from Colombia.

Contr. U. S. Nat. Herb., 16,
pt. 5, Feb. 11, 1913, pp.
217-219, pls. 52, 53.

— *Chelonocarpus*, a new section of
the genus *Annona*, with descriptions
of *Annona scleroderma* and *Annona testudinea*.

*Journ. Washington Acad.
Sci.*, 3, No. 4, Feb. 19,
1913, pp. 103-109, figs. 1-3.
Includes descriptions of two new
species, *Annona scleroderma* and *A. testudinea*,
from Mexico and Central
America, for which the new section
Chelonocarpus is proposed.

SMITH, JOHN DONNELL. Undescribed
plants from Guatemala and other Central
American republics, — XXXV.

Botan. Gaz., 54, No. 3, Sept.
21, 1912, pp. 235-244.

— Undescribed plants from Guatemala
and other Central American republics, — XXXVI.

Botan. Gaz., 55, No. 6, June
16, 1913, pp. 431-438.

GEOLOGY AND MINERALOGY.

GOLDSCHMIDT, V. (See under Joseph E
Pogue.)

MERRILL, GEORGE P. A recent meteorite
fall near Holbrook, Navajo County,
Arizona.

Smithsonian Misc. Coll.,
60, No. 9, Nov. 21, 1912,
pp. 1-4.

Gives an account of the fall and
description of the composition and

PIEDMONT OF NEW MEXICO.

Rep. Smithsonian Inst.,
1911, No. 2119, Nov. 20,
1912, pp. 447-462, pls.
1-13.

— Plants of the Alpine Club expedition
to the Mount Robson region.

Canadian Alpine Journal,
Special Number, 1912
(Feb., 1913), pp. 76-97,
pls. 1-5.

Includes descriptions of several new
species of phanerogams.

— Five new plants from New Mexico.

Proc. Biol. Soc. Washington,
26, May 21, 1913, pp.
115-119.

— (See also under Gerrit S. Miller, jr.,
J. N. Rose and E. O. Wooton.)

STEELE, E. S. Four new species of
goldenrod from the eastern United
States.

Contr. U. S. Nat. Herb., 16,
pt. 5, Feb. 11, 1913, pp.
221-224.

The writer describes 4 new species
of *Solidago* from Wisconsin, Minnesota,
Michigan, and Indiana.

SWINGLE, W. T. *Chaetosperrum*, a new
genus of hard-shelled citrus fruits.

*Journ. Washington Acad.
Sci.*, 3, No. 4, Feb. 19,
1913, pp. 99-102, 1 fig.

TIDESTROM, IVAR. A new *Salicornia*.

Proc. Biol. Soc. Washington,
26, Jan. 18, 1913, pp.
13, 14.

Describes *S. utahensis*, the type of
which is in the National Museum.

WOOTON, E. O., and PAUL C. STANDLEY.
Descriptions of new plants preliminary
to a report upon the flora of New
Mexico.

Contr. U. S. Nat. Herb., 16,
pt. 4, Feb. 12, 1913, pp.
109-196, pls. 48-50.

MERRILL, GEORGE P.—Continued.

structure of the stone, including a
chemical analysis by Dr. J. E. Whitfield.

— A newly found meteoric iron from
Perryville, Perry County, Missouri.

Proc. U. S. Nat. Mus., 43,
No. 1943, Dec. 31, 1912,
pp. 595-597, pls. 44, 45.

Gives a description of the iron as
found, with figures of the complete

MERRILL, GEORGE P.—Continued.

individual, and an etched surface, enlarged. Its resemblance to the Ballinoo, West Australia, iron is noted, and the results of a chemical analysis by Dr. J. E. Whitfield are given in comparison with an average of two analyses of the Ballinoo iron. The occurrence of ruthenium in a meteoric iron is here noted for the first time.

— A newly found meteorite from near Cullison, Pratt County, Kansas.

Proc. U. S. Nat. Mus., 44, No. 1952, Apr. 12, 1913, pp. 325-330, pls. 54, 55.

Notes the reported fall of this meteoric stone on December 22, 1902, and its find in 1911. A description and figures of the entire mass as found, and of a polished slice, are given. Chemical and mechanical analyses of the stone, by Dr. J. E. Whitfield, are followed by a discussion of the results by the author.

— On the minor constituents of meteorites.

Amer. Journ. Sci., 4th ser., 35, May, 1913, pp. 509-525.

The author takes up the discussion of the nongaseous elements, the reported occurrence of which has seemed open to question. A review of the reported occurrence in meteorites of arsenic, antimony, copper, gold, lead, lithia, platinum, palladium, iridium, tin, titanium, vanadium, and zinc is followed by a record of results of careful determinations on 11 meteorites by Dr. J. E. Whitfield, and a discussion of these results by the author. This work was done under a grant from the National Academy of Sciences.

MERRILL, GEORGE P. Notes on concretions from Mexican oil wells.

Bull. Geol. Soc. Amer., 24, June 10, 1913, pp. 263, 264, pls. 5, 6.

Describes the structure and composition, and discusses the origin of some calcareous concretions submitted by Dr. I. C. White and is published as part of his paper entitled "Petroleum fields of northeastern Mexico between the Tamesi and Tuxpam Rivers."

POGUE, JOSEPH E. The aboriginal use of turquois in North America.

Amer. Anthropologist, n. s., 14, No. 3, July-Sept., 1912, pp. 437-466, pls. 29-32.

Gives a detailed review of the application of turquois among the North American aboriginal tribes of both past and present times.

— On a cerussite twin from the Mammoth Mine, Pinal County, Arizona.

Amer. Journ. Sci., 4th ser., 35, Jan., 1913, pp. 90-92, 2 figs.

Describes and figures a cerussite crystal twinned after the rare *r-law*.

— and V. GOLDSCHMIDT. On quartz from Alexander County, North Carolina.

Amer. Journ. Sci., 4th ser., 34, Nov., 1912, pp. 414-420, figs. 1-4.

A crystallographic description of two quartz crystals with rare and new faces. One of the specimens, showing three new faces, is the property of the U. S. National Museum.

— Zwei quarze von Alexander County.

Zeitschr. für Kristallographie und Mineralogie, 51, Heft 3, 1912, pp. 269-273, figs. 1-4.

A reprint in German of the matter in the preceding paper.

PALEONTOLOGY.

BERRY, EDWARD W. A fossil flower from the Eocene.

Proc. U. S. Nat. Mus., 45, No. 1990, June 13, 1913, pp. 261-263, pl. 21, 1 fig.

Describes and figures a new genus and species of fossil flower, *Combreanthites eocenica*.

CLARKE, JOHN M., and RUDOLF RUEDEMANN. The Eurypterida of New York.

N. Y. State Mus., Memoir 14, 1912, 1, pp. 1-439, frontispiece, 121 figs; 2, pp. 441-628, 88 pls.

A monograph on the Eurypterida of New York. A number of speci-

CLARKE, JOHN M., and RUDOLF RUEDEMANN—Continued.

mens belonging to the National Museum are used as the basis of descriptions and figures.

COCKERELL, T. D. A. Some fossil insects from Florissant, Colorado.

Proc. U. S. Nat. Mus., 44, No. 1956, Apr. 30, 1913, pp. 341-346, pl. 56, 3 figs.

Describes 5 species, 3 of which are new, and founds the new genus *Eobruereta*. Four of the specimens described are in the National Museum.

cussion of the venation of the Aeshnine dragon-flies.

Proc. U. S. Nat. Mus., 45,
No. 2000, June 21, 1913,
pp. 577-583, 3 figs.

Gives a description and figure of a new species belonging to the family Aeshnidae, followed by a key to the principal genera of Aeshninae, based on the venation.

GIDLEY, JAMES WILLIAMS. Notice of the occurrence of a Pleistocene camel north of the Arctic Circle.

Smithsonian Misc. Coll.,
60, No. 26, Mar. 21, 1913,
pp. 1, 2.

A brief account of the discovery of a single phalanx of a camel found associated with remains of an undoubted Pleistocene fauna, from a locality on Old Crow River, Yukon Territory, well within the Arctic Circle. The discovery extends the known distribution of this important group of quadrupeds and furnishes further evidence of milder climatic conditions in Alaska during at least a part of the Pleistocene, and favors the theory of an Asiatic-Alaskan land connection during that period.

— An extinct American eland.

Smithsonian Misc. Coll.,
60, No. 27, Mar. 22, 1913,
pp. 1-3, pl. 1.

A new species of Pleistocene antelope, apparently closely related to the living eland of Africa, is described. Its probable migration in Pleistocene times, its relationship with the antelope, and former known distribution are also briefly discussed. It is suggested that the species here described, represented by a specimen from a Cumberland, Maryland, cave deposit, found its way from some locality in Asia across a then existing land connection between Asia and Alaska, thence migrating directly to the eastern coast region by a route north of the Great Lakes.

— A recently mounted zeuglodon skeleton in the United States National Museum.

Proc. U. S. Nat. Mus., 44,
No. 1978, Apr. 30, 1913,
pp. 649-654, pls. 81, 82,
figs. 1-3.

A brief history of the finding and preparation of the specimen is given, with figures and description of the mounted skeleton. Its probable re-

males is briefly discussed. The proposition advanced by Abel, who held that the pelvic bones had been wrongly interpreted by Lucas, contending that they represented the coracoids of a large bird (*Alabamornis gigantea*), is discussed and refuted as being untenable.

GILMORE, CHARLES W. A new dinosaur from the Lance formation of Wyoming.

Smithsonian Misc. Coll.,
61, No. 5, May 24, 1913,
pp. 1-5, 5 figs.

A preliminary description of *Theocoelosaurus neglectus*, a new genus and species of the Ornithopoda.

HAY, OLIVER P. Notes on some fossil horses, with descriptions of four new species.

Proc. U. S. Nat. Mus., 44,
No. 1969, Apr. 30, 1913,
pp. 569-594, pls. 69-73,
28 figs.

The status of the two species *Equus fraternus* Leidy and *E. complicatus* Leidy is here discussed at length. It is pointed out that the type selected by Cope for the former remains the type according to the established rules of nomenclature, the one later selected by Gidley having no standing. Thus *E. fraternus* becomes a rather indeterminate species, not readily distinguished from *E. complicatus*, while a new name and new type are selected to represent the smaller species described by Leidy and later discussed by Gidley. Three new species of horses are described.

— Description of the skull of an extinct horse, found in central Alaska.

Smithsonian Misc. Coll.,
61, No. 2, June 4, 1913,
pp. 1-18, pls. 1, 2, figs. 1-8.

Describes a new subspecies of horse (*Equus niobrarensis alaskae*) founded on a nearly complete skull from near Tofta, Alaska. The author notes that the Alaskan skull differs but slightly from *Equus niobrarensis* Hay, with which he compares it, but concludes that it should be signalized as a distinct form. Comparison is also made with *E. przewalskyi* and other living species. Discusses at length other discoveries of horse remains in Alaska and the Yukon Territory, and gives a map showing the known localities where the remains of fossil horses have been found in this region. The paper contains tables of com-

HAY, OLIVER P.—Continued.

parative measurements, including one giving the indices showing the extension forward of the protocone in *Equus*. The specimen has been lent to the National Museum for exhibition.

KNOWLTON, F. H. Results of a paleobotanical study of the coalbearing rocks of the Raton Mesa region of Colorado and New Mexico.

Amer. Journ. Sci., 4th ser., 35, May, 1913, pp. 526-530.

A study of the fossil plants shows that the coalbearing section of the Raton Mesa region, formerly considered as Tertiary and later as Cretaceous (Laramie), must now be regarded as in part Cretaceous (Vermejo) and in part Tertiary (Raton).

— Description of a new fossil fern of the genus *Gleichenia* from the Upper Cretaceous of Wyoming.

Proc. U. S. Nat. Mus., 45, No. 1904, June 21, 1913, pp. 555-558, pl. 44.

Discusses the occurrence of *Gleicheniaceae* in the Paleozoic and Mesozoic, and describes and figures the new species *Gleichenia pulchella* from the Cretaceous of Wyoming.

RUEDEMANN, RUDOLF. (See under John M. Clarke.)

SHUFELDT, R. W. Contributions to avian paleontology.

Auk, 30, No. 1, Jan., 1913, pp. 29-39, pl. 3.

A study of the types of three species of fossil turkeys convinces the author that *Meleagris altus*—*M. superbus*; *M. antiqua* is probably not a true *Meleagris* and *M. celer* is not a member of this family. Some notes are added on the fossil birds of Oregon.

TRUE, FREDERICK W. A fossil toothed cetacean from California, representing a new genus and species.

Smithsonian Misc. Colls., 60, No. 11, Nov. 1, 1912, pp. 1-7, pls. 1, 2.

Describes *Heperocetus californicus* from a mandible in the museum of the University of California.

WALCOTT, CHARLES D. Notes on fossils from limestone of Steeprock Lake, Ontario.

Geol. Surv. Canada, Memoir 28, 1912, pp. 16-23, pls. 1, 2.

Discusses the nature of organic remains, studied through the courtesy

WALCOTT, CHARLES D.—Continued.

of Dr. A. C. Lawson. Places these tentatively in the Lower Huronian, and under the new genus *Atikobensis* describes and figures two new species, *A. lawsoni* and *A. irregularis*.

— Cambrian Geology and Paleontology. II. No. 9.—New York Potsdam-Hoyt fauna.

Smithsonian Misc. Colls., 57, No. 9, Sept. 14, 1912, pp. 251-304, pls. 37-49.

Describes the varied fauna from the Upper Cambrian Potsdam sandstone and Hoyt limestone of New York State; proposes and defines the name "St. Croixan" in place of "Saratogan"; describes and figures representatives of 18 genera, including the new genus *Matherella*, and 4 new species as follows: *Hyolithellus papillatus*, *Ptychoparia matheri*, *Pagodia seelyi*, and *Dicellocephalus tribulus*.

— Cambrian Geology and Paleontology. II. No. 10.—Group terms for the Lower and Upper Cambrian series of formations.

Smithsonian Misc. Colls., 57, No. 10, Sept. 16, 1912, pp. 305-307.

Proposes term "Waucoban" to replace "Georgian" as group name for formations in Lower Cambrian, and "St. Croixan" to replace "Saratogan" as applied to group formations in Upper Cambrian, as in previous paper.

— Cambrian Brachiopoda.

Monogr. U. S. Geol. Surv., 51, 1912, pt. 1, pp. 1-572, figs. 1-76; pt. 2, pp. 1-363, pls. 1-104.

Gives results of an exhaustive study of the subject, based on personal investigation, with correlation of all important publications on the subject. Main purpose: To make the work of value to the student of Cambrian faunas and to the stratigraphic geologist. Describes 44 genera, 15 subgenera, 447 species, and 59 varieties of Cambrian Brachiopoda, and 3 genera, 1 subgenus, 43 species, and 1 variety of Ordovician Brachiopoda. Treats Brachiopoda historically, geologically, and zoologically. Includes bibliography, table of synonymic references, general geographic and stratigraphic distribution, evolution, classification, and descriptions and illustrations of genera and species in part 1. In part 2, nearly 400 pages of plate descriptions in addition to the 104 plates further illustrating the Brachiopoda.

WALCOTT, CHARLES D. The Monarch of the Canadian Rockies. The Robson Peak District of British Columbia and Alberta.

Nat. Geog. Mag., 24, No. 5, May, 1913, pp. 629-639, 11 text illustrations and a large panoramic frontispiece.

Describes and illustrates the Robson Peak District of British Columbia and Alberta, with a review of previous explorations, and an account and illustration of explorations and discoveries by the expedition of 1912, led by the author.

WICKHAM, H. F. Fossil Coleoptera from Florissant in the United States National Museum.

WICKHAM, H. F.—Continued.

Proc. U. S. Nat. Mus., 45, No. 1982, June 13, 1913, pp. 283-303, pls. 22-26.

Describes and figures the more important of the fossil Coleoptera from Florissant in the collection of the U. S. National Museum. Twenty new species are described, and the following new genera founded: *Aleocharopsis*, *Miolithocharis*, and *Miotenosteis*.

WILLIAMS, HENRY SHALER. Some new Mollusca from the Silurian formations of Washington County, Maine.

Proc. U. S. Nat. Mus., 42, No. 1908, July 3, 1912, pp. 381-398, pls. 49, 50.

Describes and figures 17 new species and varieties and founds the 2 new genera, *Eurymyella* and *Chiopteria*.

MISCELLANEOUS.

CLARK, AUSTIN HOBART. A study of the salinity of the surface water in the North Pacific Ocean and in the adjacent enclosed seas.

Smithsonian Misc. Coll., 60, No. 13, Dec. 4, 1912, pp. 1-33.

SUMNER, FRANCIS B., RAYMOND C. OSBURN, and LEON J. COLE. A biological survey of the waters of Woods Hole and vicinity. Part I. Section I. Physical and Zoological. Part II. Section III. A Catalogue of the Marine Fauna.

Bull. Bur. Fisheries, 31, 1911 (June 3, 1913), pt. 1, pp. 3-442, charts 1-227; pt. 2, pp. 545-794.

Section I describes the results obtained by a systematic biological survey, from 1903 to 1909, of the waters of the region about Woods Hole, that is, from Newport eastward to Chat-

SUMNER, FRANCIS B., RAYMOND C. OSBURN, and LEON J. COLE—Continued.

ham and Sankaty Head, and including Buzzards Bay, Vineyard Sound, and Nantucket Sound, the ocean shores of Marthas Vineyard and Nantucket, and southward to the 20-fathom line. The results are included under geographical and physical conditions, synopsis of zoological data, the fauna considered by systematic groups, and theoretical considerations; followed by a bibliography, a list of dredging stations, and 227 charts showing distribution of species separately, range of temperatures, densities, and geographic and hydrographic features.

Section III is a census of the animals (invertebrate and vertebrate) found in the vicinity of Woods Hole, and based on the collecting done by the United States Fish Commission (now the Bureau of Fisheries) and on all published records known to the authors.

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